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LEATH & ROSS, LONDON.

SEVEN HIGHEST AWARDS—Philadelphia, 1876; Paris, 1878; International Medical Exhibition, London, 1881.

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Three Styles.	{	VASELINE, SUPERFINE TOILET,	One size, 1s. per tablet.
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The "VASELINE" TAR SOAP is the pleasantest and most effective combination of Tar for all Skin Diseases and Irritations and a delightful Toilet article. The only genuine Tar Soap made.

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Ditto, ditto, and in 1-lb. tins.

In 1-lb. and 5-lb. tins.

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In $\frac{1}{2}$ -lb., 1-lb., and 5-lb. tins.

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J. Hart & Son,

Sponge Importers,

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Greece and Turkey.

We, buying our Sponges direct from the Fishermen, are enabled to offer the finest selection of Honeycomb and Turkey Cups and Solids it is possible to obtain, at prices lower than any other house in the trade.

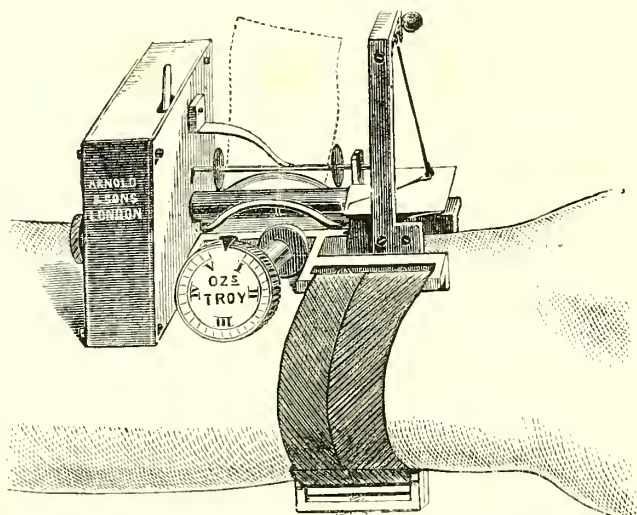
The Sponges we send out are entirely free from Sand but not washed."

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1. It magnifies the movements of the artery to a uniform degree—viz., 50 times.
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3. It requires no wrist-rest, and may be used with equal facility whether the patient is standing, sitting, or lying.
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7. It is so small (2½ by 2 inches) and so light (4 oz.) that it can easily be carried in the pocket.
8. It is only one-third of the price of the numerous instruments hitherto offered to the profession.

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GLACIALINE.

NOTICE TO THE TRADE.

As Extensive Alterations are being made at our Chemical Works in Glasgow, NO ORDERS, except those already on our Books, can be executed until the end of May. In order to prevent disappointment, Orders for the month of June should be sent in at once.

GOOD ADVICE TO CHEMISTS

Always keep a Stock of Glacialine.

WE ADVERTISE in all the high-class magazines and journals of the day.

Don't send away your customers with "Sorry, we don't keep it in stock, but we will order for you."

You lose custom in the way, for people, when they buy Glacialine, are in a hurry—weather hot, things wanted, &c.

THE ANTITROPIC PURE DAIRY CHEMICALS.

THE ANTITROPIC ANNATTO FOR COLOURING MILK AND THE CHEESE MADE FROM IT.—This Annatto is guaranteed to be free from Lime, Copper, Venetian Red, Turmeric, and other adulterations found in the ordinary Annatto of Commerce, which is prepared and vended by persons who know nothing of Chemistry.

THE ANTITROPIC COWSLIP COLOURING FOR BUTTER.—This preparation can only be used for Butter, for which it has most excellent properties, giving to White Butter a rich and natural Cowslip Colour. A 3s. Bottle will change ½ ton of White Butter into a beautiful Cowslip Tint.

THE ANTITROPIC RENNET.—This preparation is made from carefully-selected Calves' (none but Sucking Calves) Stomach prepared when the vells are perfectly fresh, thus avoiding the objectionable and offensive odours generally found in Rennet Essences.

THE ANTITROPIC DAIRY SALT.—Pure, readily soluble, and quite dry. Not liable to get damp. The Purest Salt in the market, and the best suited for making butter and cheese. Cheapest in the long run. Price 3s. 6d. per cwt.

The above Preparations are put up in elegant Wrappers and Cases, so as to be an ornament to the most select counter.

In 1878

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Is a Harmless & Effectual Preservative of
MILK, BUTTER, EGGS, & other FOOD.

10 YEARS' DAILY Use in all parts of the World
has demonstrated this Scientific Testimony to be
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WARDER GOLD MEDAL, Adelaide, 1881.
GOVERNMENT SILVER MEDAL, Norwich, 18.1
Several Prizes, Silver and other Medals
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CIALINE.

Notably Two Champion Cups have been won
at London Dairy Show by Butter preserved with
GLACIALINE.

GLACIALINE KEPT MILK & CREAM
SWEET at the Royal Agricultural Show
Dairy, for seven whole days, the weather being
so hot that milk and cream without Glacialine
turned sour in a few hours.

Kept **BUTTER** at the London Dairy Show
sweet and in good condition, which Butter
obtained THE LORD MAYOR'S CHAMPION
Cup and other Prizes.

Kept **EGGS** in CHINA from 30th May to 5th
September, temperature never below 70°
See this and other Testimonials.

400 MILES VOYAGE from England
to Maitoba, with a temperature of
92° in the shade. MILK preserved for 22 days
during this voyage.

PROFESSOR SHELDON'S RE-
PORT of the above WONDERFUL EXPERI
ment should be read in the *Live Stock Journal*
of 5th 17th, 1880.

GLACIALINE KEPT FISH SWEET
at the National Fisheries Exhibition for
14 days, and received a Special Silver Medal.

GLACIALINE in INDIA. — "Kept
milk sweet for more than a week, which
milk would have turned sour in three hours with
out Glacialine." — Letter to J. ROSSON, Esq. (lat
part of the Anchor Line Company), Glasgow.

GLACIALINE at MONTE VIDEO. —
"Kept meat for nine days after it was
killed." — JAMES RICKARD, Admiral's Steward
H.M. *Constant*, one of the Squadron in attend
ance on the YOUNG PRINCES.

GLACIALINE at GIBRALTAR. — Lady
NAPIER of Magdala has used Glacialine
during the past year at Gibraltar, and is delighted
with it. Kept meat, milk, fish &c., during visits of
Levellers, which are heavy black clouds oade
wild electricity, that hang over the rock of Gibr
altar, and cause everything to become sour or putrid.

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should be without it. Saving is Enormous

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Grocers, and Oilmen, at 6d. each, in Packets of
25, 41 in Canisters at 2s. 3d. Manufactured by
THE ANTITROPIC COMPANY, Glasgow, and
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Placets and Testimonials free on application

THE

ANTITROPIC CO.,

Manufacturing Chemists,

GLASGOW; AND

20 STAMFORD STREET, BLACKFRIARS,
LONDON, S.E.

NEW DAIRY PREPARATIONS.—Read the following CHEMICAL & PHYSIOLOGICAL DISSERTATION.

The ordinary Anatto of commerce is adulterated and impure, the adulterations and impurities being for the most part Lime, Copper, Venetian Red, Turmeric, &c. An article such as Anatto which is used in food should be especially free from any such adulterations or impurities. In response to requests from various quarters, we have at length produced

THE ANTITROPIC ANNATTO.

THE ANTITROPIC COWSLIP COLOUR FOR BUTTER.

(This Preparation is distinct from Annatto, and can only be used for Butter.)

THE ANTITROPIC RENNET.

Continued from April Issue.

How was cheese first made? It is very difficult to answer this question, as we have no reliable data to work from, but it may be easily imagined that in the early years of mankind some curious and inquiring mind opened a sucking calf's stomach just after it was killed, and knowing that the calf had taken into its stomach nothing but its mother's milk he would not be in the slightest degree afraid to taste and try it; he would find the material coagulated in the stomach very agreeable to his palate, and perhaps might have collected the curd of various stomachs, eaten it, and found it nourishing; then curiosity would creep in, and the man would naturally ask himself the question—How does milk come to be changed into this material? Then, after a period of reflection and thought, he would come to the conclusion that it was something in the stomach of the calf which caused this change to take place. Having arrived at this conclusion, it was but the most natural thing in the world that he should have taken the calf's stomach and placed it in a quantity of milk and watched the result. He would find that if he placed it into cold milk that the change he desired to bring about would be a long time in taking place, and naturally it would suggest itself to his mind that the best thing he could do would be to imitate as far as he could the condition under which the calf had changed the milk into curd, and he would place his bowl of milk into warm water, or by some other means raise the temperature, when the result would be obtained more quickly and efficiently.

This is very probably the method by which cheese manufacture was first inaugurated, but when the population of the world increased, and many months had to be fed, some difficulty was found in preserving the calves' stomachs so as to make good cheese.

It is only, then, in very recent years that any attempt has been made to preserve calves' stomachs by any other means than salt, yet it will surprise a great number of people to be told that salt is very injurious to that portion of the calf's stomach which is active in coagulating the milk.

The interior of a calf's stomach has a mucous lining, and this mucous lining is studded over with an innumerable quantity of cells. These minute cells are called peptic, and they are the active workers of coagulation in milk; and as far as their weight compares with the gross weight of the stomach, they do not represent the one-thousandth part of the total weight, therefore it is somewhat surprising that throughout ages men have gone on dealing with a mass of putrescible matter such as the calf's stomach, when the only portion of the stomach of use in curdling milk is the mucous lining, or, more correctly speaking, the cells lining it, when only an infinitesimal portion of that material is of any use whatever for any purpose which they require the stomach for. Instead of being of any service, the actual substance of the stomach itself is of the greatest detriment to the milk and the cheese made from it—the nitrogenous matter of which it is composed is highly liable to decomposition and putrefaction, and its decomposing and putrefacting tendency is communicated to the milk, and therefore to the cheese.

To return to these cells that are called peptic, and which are the producers of coagulation in milk, it has only recently been discovered that these cells are living organised beings, and that the coagulation in milk is due to their vital activity. These cells change the nature of milk by absorbing certain elements from it, and so changing its chemical composition. They are living beings, and when they are put into milk they are like so many hungry beings placed in a larder stored with the very food which they delight in. The consequence is, they do not halt, hesitate, or consider, but they fall to with a vengeance, and in their doing so they multiply with an

astounding rapidity. Nothing is more marvellous than the multiplication of these cells. One cell placed in one hundred gallons of milk will in a very short time make that one hundred gallons teem with myriads of beings like itself.

Now, if you deal with these cells circumspcctly, they will render good service, but since they are exceedingly minute and tender of life, if you deal with them harshly they become absolutely useless. The life in them is easily destroyed—salt will destroy it; then, naturally is asked, why has salt been used to preserve stomachs? Why? Not because the cells required the salt, but because the putrescible material of the stomach required to be preserved, and salt was the only material that has been known up to recent years to effectually preserve this, and that is the reason why salt has been used as a means of preserving.

It is seen that the farmers in the past ages have been doing all they could to destroy the very things they required, and they really have to thank their ingenuity, but the exceedingly prolific power of the cells for any amount of success at all. An occasional cell or two would be left in a condition half alive, half dead, upon the mucous lining of those vells that had been pickled in salt, while the great majority would be totally deprived of life and therefore of no service as far as curdling milk is concerned; but if only a small percentage of cells had retained their vitality, owing to the real multiplication of each single cell when placed in a soil favorable to its growth (and milk is an eminently suitable soil for the propagation of peptics), cheese-making has been practicable. Few have imagined what an expensive process that of pickling vells in salt is.

The Antitropic Company, by preserving the calves' stomachs according to a new method of their own, are able to collect all the active cells, which they preserve and put up in a suitable form for the use of cheese-makers and householders who wish to make junkets, curds, and whey. In placing the Antitropic Rennet before dairy-farmers and the public, the advantages that are claimed for it are that it is a more clearly and wholesome preparation, as none of the tissues of the calves' stomachs are mingled with it, and being a fluid containing the peptic cells in suspension, it is much more effective than the ordinary preparations in the market.

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Concentrated Liquors

Any quantity of a required Syrup at a moment's notice.

PERMANENT. UNIFORM. ECONOMICAL.

It is only necessary to add to the proper proportion of Concentrated Liquor a certain volume of Syrupus, P.B., in order to obtain any one of the Chemical Syrups, in the highest perfection, and at prices which would be otherwise unattainable.

THE FOLLOWING LIQUORS ARE THOSE IN MOST CONSTANT DEMAND:—

Liq. Ferri Iodidi, 1 to 7.

Each fluid drachm contains 34·4 grains of Iodide of Iron. This is the only *permanent* solution of Ferrous Iodide yet produced. It may be exposed for months in an open bottle without impairing the beautiful sea-green tint characteristic of the freshly-prepared salt. It produces a brilliant Syrup free from any yellow tint.

½ lb. bots., 5s.; 1 lb. bots., 9s. (*fluctuates*).

Liq. Ferri Lactophosph., 1 to 7.

Each fluid drachm contains 8 grains of Phosphate of Iron, combined with Lactic Acid.

½ lb. bots., 3s. 6d.; 1 lb. bots., 6s. 6d.

Liq. Ferri Phosph., 1 to 7.

Each fluid drachm contains 8 grains of Ferrous Phosphate. One volume added to seven volumes of *Syrupus B.P.* forms *Syr. Ferri Phosph.* of a uniform strength unattainable by the *Pharmacopœia* process.

½ lb. bots., 2s.; 1 lb. bots., 3s. 6d.

Liq. Ferri Phosph. Comp., 1 to 3.

Each fluid drachm contains, in addition to the Alkaline Phosphates, 4 grains of Ferrous Phosphate, and 8 grains of Calcium Phosphate dissolved in pure Phosphoric Acid. One volume added to three volumes of *Syrupus B.P.* forms "Chemical Food" of a strength nearly double that of ordinary commercial specimens.

½ lb. bots., 2s.; 1 lb. bots., 3s. 6d.

Liq. Calcis Hypophosph., 1 to 7.

Each fluid drachm contains 8 grains of Hypophosphite of Calcium.

½ lb. bots., 2s. 6d.; 1 lb. bots., 4s. 6d.

Liq. Calcis Lactophosph., 1 to 7.

Each fluid drachm contains 8 grains of Calcium Phosphate, combined with Lactic Acid.

½ lb. bots., 3s. 6d.; 1 lb. bots., 6s. 6d.

Liq. Ferri Bromidi, 1 to 7.

Each fluid drachm contains 34·4 grains of Bromide of Iron.

½ lb. bots., 3s. 6d.; 1 lb. bots., 6s. 6d.

Liq. Hypophosph. Comp., 1 to 7.

Each fluid drachm contains 8 grains of Hypophosphite of Calcium, and 4 grains each of the Hypophosphites of Potass and Soda.

½ lb. bots., 3s. 6d.; 1 lb. bots., 6s. 6s.

Liq. Ferri et Quiniæ et Strychnæ Phosph., 1 to 3.

Each fluid drachm contains 4 grains of Phosphate of Quinine, 4 grains of Phosphate of Quinine, and ½ grain of Strychnine. One volume added to three volumes of *Syrupus B.P.* forms "*Easton's Syrup*."

½ lb. bots., 6s. 6d.; 1 lb. bots., 12s. (*fluctuates*).

Liq. Hypophosph. Comp. & Quiniæ et Strychniæ, 1 to 3.

One volume added to three volumes of *Syrupus B.P.* forms the Compound Syrup of the Hypophosphites, with Quinine and Strychnine.

½ lb. bots., 5s.; 1 lb. bots., 9s.

Liq. Ferri et Calcis Lactophosph., 1 to 7.

Each fluid drachm contains 4 grains of Phosphate of Iron, and 4 grains of Phosphate of Lime, combined with Lactic Acid.

½ lb. bots., 3s. 6d.; 1 lb. bots., 6s. 6d.

Liq. Ferri et Manganæ. Phosph., 1 to 7.

Each fluid drachm contains 4 grains of Phosphate of Iron, and 4 grains of Phosphate of Manganese.

½ lb. bots., 2s. 6d.; 1 lb. bots., 4s. 6d.

Liq. Ferri Hypophosph., 1 to 7.

Each fluid drachm contains 8 grains of Hypophosphite of Iron.

½ lb. bots., 2s. 6d.; 1 lb. bots., 4s. 6d.

Liq. Ferri et Ammon. Cit., B.P. 1 in 2.

Each fluid drachm contains half a drachm of Citrate of Iron and Ammonia (*British Pharmacopœia*).

1 lb. bots., 1s. 4d.

Liq. Ferri et Quiniæ Cit., B.P. 1 in 2.

Each fluid drachm contains half a drachm of Citrate of Iron and Quinine (*British Pharmacopœia*).

4 oz. bots., 5s. 6d.; 16 oz. bots., 21s. (*fluctuates*).

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Chemists and Druggists' Trade Association of Great Britain.

NOTICE OF ANNUAL GENERAL MEETING.

NOTICE IS HEREBY GIVEN, that, the SIXTH ANNUAL GENERAL MEETING of the Members of this Association will be held in the Banqueting Room of the INNS OF COURT HOTEL, LINCOLN'S INN FIELDS, LONDON, W.C., on Tuesday, May 16th, 1882, at Twelve, noon, for halfpast Twelve, for the transaction of the following business:—

To receive and consider the Report of the Executive Committee, and the General Statement of the Funds of the Association.

To elect an Executive Committee and Officers for the ensuing year

To discuss questions affecting the interests of the Trade.

W. F. HAYDON,
Secretary.

OFFICE OF THE ASSOCIATION,
23 BURLINGTON CHAMBERS, NEW STREET,
BIRMINGHAM, May 5th, 1882.

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The EXAMINATIONS held in London last Month, the following Students were SUCCESSFUL in passing from this College:—

MAJOR.

Mr. A. C. J. Horrell.

MINOR.

Mr. W. L. Longstaff.
 " G. F. Odams.
 " W. C. Pitts.
 " J. Quibell.
 " M. Radford.
 " E. Radcliffe.
 " T. Randall.
 " T. Shackleton.

Mr. T. D. Summers.
 " A. S. Swadling.
 " F. W. Walker.
 " S. F. Whitney.
 " J. W. Williams.
 " J. Wilson.
 " F. W. Wood.

PRELIMINARY.

Mr. J. Ashton.
 " C. Brown.
 " J. Halliwell.

Mr. S. Harris.
 " J. G. Henderson.
 " A. F. Langley.

Mr. H. H. Long.
 " A. W. New.
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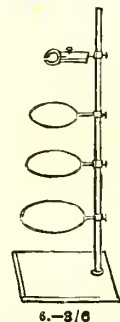
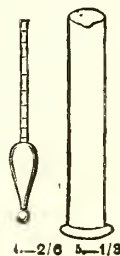
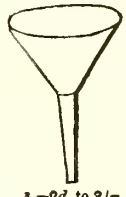
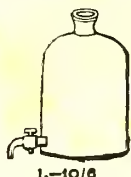
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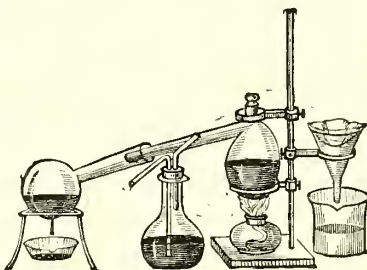
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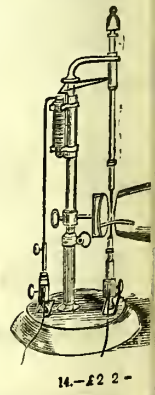
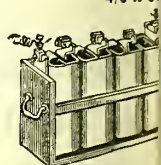
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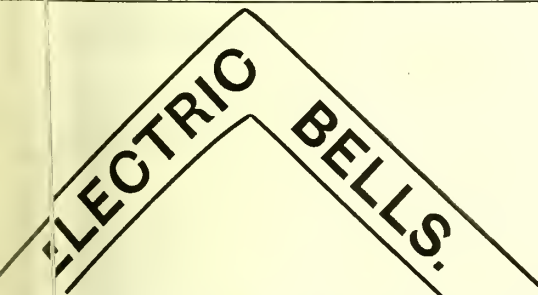
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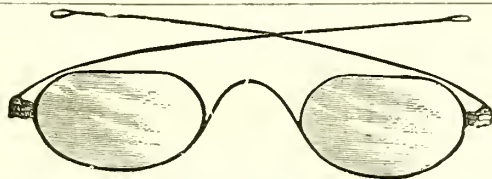
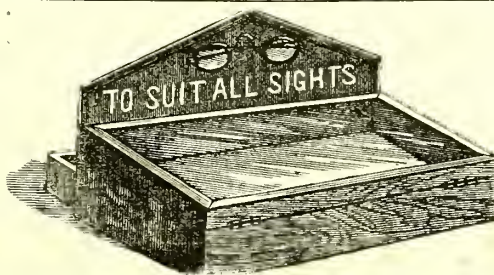
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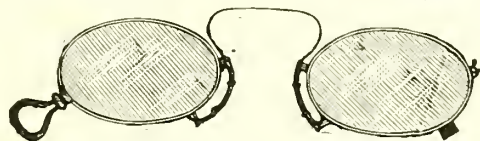


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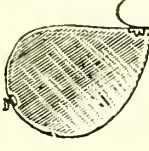

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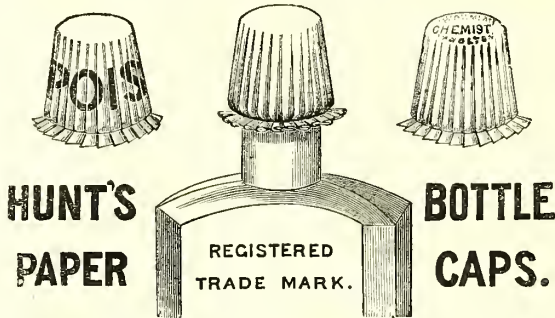
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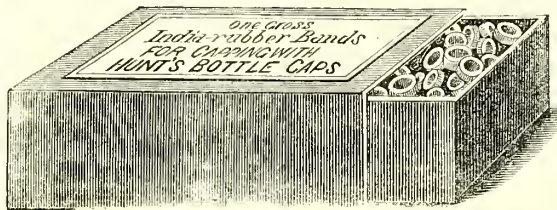


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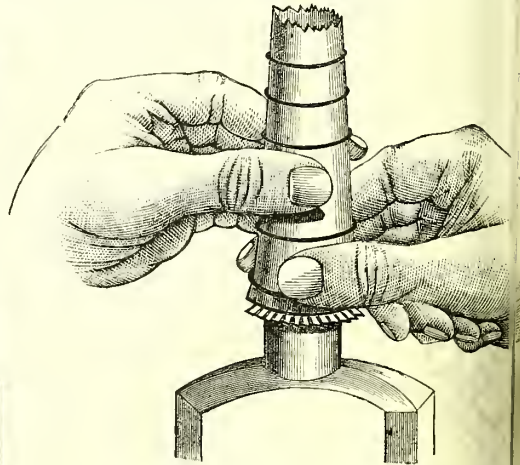
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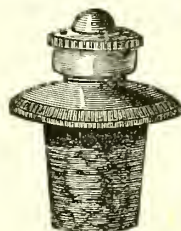
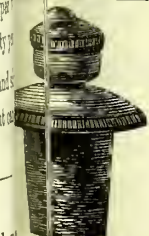
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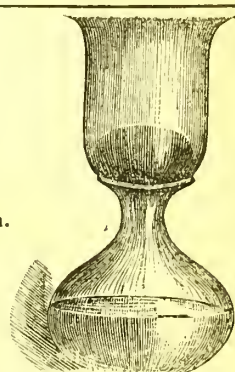
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Solution of Hydriodic Acid was long since recommended for internal use. Dr. BUCHANAN, in the *London Medical Gazette*, Vol. XVIII., p. 517, published a formula for its extempore preparation, and states that the solution possesses all the therapeutic powers of Iodine without its irritating properties. But the solution always decomposed within a few hours after its preparation, and was therefore rarely, if ever, in a fit condition for internal administration.

The decomposition is caused by the disengagement of Hydrogen; this sets free its equivalent of Iodine which colours the remaining acid red, and renders it too irritant for internal medication.

Simple mixtures of Hydriodic Acid and Syrup do not keep.

When not decomposed, Hydriodic Acid is of a light-yellowish colour, is perfectly non-irritant, grateful to the taste, and rendered still more acceptable if combined, as in this preparation, with sugar.

In chemical composition it consists of one equivalent each of Iodine and Hydrogen (HI). As the equivalent of Iodine is 127, and that of Hydrogen 1, it follows that the proportion of Hydrogen present, as compared to Iodine, is 1 per cent. (78-100 of 1 per cent.). The Acid is therefore nearly pure Iodine.

The combination renders Iodine more assimilable, and medicinally more active, whilst depriving of its objectionable irritant properties, and changing it from a most disagreeable to one of the pleasantest of remedies.

The Syrup has been remarkably useful in Asthma, Chronic Bronchitis, and Hay Fever (See papers by J. P. OLIVER, M.D., Boston, *Medical and Surgical Journal*, March 4th, 1880, and by W. GILL WYLIE, M.D., New York, *Medical Record*, May 10th, 1879.) While it has been found specially useful in these diseases, it is applicable to all that large class of affections in which the use of Iodine is indicated, as in Catarrhs of the Throat, and subacute Catarrhal Affections, Goitre, Adipose Tumours, Syphilis, &c.; also in chronic Malarial Poisoning.

Its effect upon mucous surfaces is more marked than that of other forms of Iodine, while it is effective in small relative proportions.

It is as palatable as Lemon Syrup.

It is so free from irritant action that it may be given to the youngest infants.

Its efficacy in Syphilis has been demonstrated.

One ounce of this Syrup contains forty minims of dilute Hydriodic Acid, representing 6.66 grains of Iodine, which correspond to 8.69 grains of Iodide of Potassium: it is, however, more active than Iodide of Potassium, and given in smaller relative doses.

The Dose of this Syrup is from one to three teaspoonfuls in twice the bulk of water, three or four times a day.

OPINIONS OF THE MEDICAL PRESS.

The *LANCET*, March 25, 1882, writes:—Hydriodic Acid, containing as it does more than 99 per cent. of iodine, is an excellent form in which to administer the element. Gardner's solution is in all respects admirable. Not a trace of free iodine can be detected in it, and as to taste, it can hardly be distinguished from lemon syrup. In addition to the ordinary applications of iodine, it is described as useful in asthma, chronic bronchitis, and hay fever.

The *BRITISH MEDICAL JOURNAL*, April 1, 1882, writes:—Although little is said about hydriodic acid in our text books of materia medica, it is undoubtedly a valuable drug, and affords an admir-

able mode of administering iodine, when it is desired to obtain constitutional effects. It has of late been employed with considerable success in the treatment of asthma, bronchitis, and hay fever. It is little used in medicine, from the difficulty experienced in obtaining a stable form. This difficulty has at length been overcome; received from Messrs. Allen & Hanbury's a specimen of Gardner's Hydriodic Acid, which is all that could be desired. It is colourless, is free from smell, and has a sweet styptic taste, and is disagreeable. The dose is from two to three teaspoonfuls three times a day.

In 1-lb. Bottles, at 5s. 4d. each, or 63s. per dozen.

Prepared by ROBERT W. GARDNER, Pharmaceutical Chemist, 170 William Street, New York.

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Index to Advertisers.

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<p> A. E. Bitter Water Co. 84 A. E. and Hanburys 90, 138 A. E. R. J. 119 Antos Co. 38 Anropic Co. 6, 7 Apnaris Co. 59 Arid and Sons 6 Assants Wanted 28 Assants Wanting Situations 28 Atkison & Barker 106 Australian (Ramornie) Meat Co. 135 Aylbury Dairy Co. 129 </p> <p> Ball, W. H., and Son 80 Bailre, Tindal and Cox 9 Baidridge and Ponnid 36 Baisbrothers and Co. 104 Ballobson and Co. 87 Barth T. 123 Barr and Foster 49, 72, 140 Barr and Eiers 48 Barr Squire and Co. 96 Bathie and Co. 87 Batt J. R. 124 Bauartmstr and Co. 118 Beddi 32 Beechin, T. 107 Bent, E. 114 Bewland Draper (Limited) 82 Bickel and Sons 87 Biggs 122 Bing 70 Bingley J. 71 Bishop 76 Black, G. G. 34 Bollan, E., and Co. 135 Bondlaugher 36 Bouda, H., and Co. 86 Bourne and Taylor 19 Bowell and Govier 124 Bourdieu and Bourdieu 119 Brady d Martin 108 Brand d Co. 129 Bratby d Hincliffe 52 Breckin, Turner and Co. 38 Breth d Co. 28 Breth d Co. 101 Brett, J. 26 Brown, F., and Co. 30 British Phon Co. 56 Brodie, and Co. 38 Brooks, F., and Co. 17 Brown, F., and Co. 44 Brown, F., and Co. 28 Brown, F., and Co. 116 Buck, and Co. 32 Burgess, Willows and Francis 96 Burk, C. 89 Burroughs, J. 36 Burroughs, Wellcome and Co. 41, 51, 105 Bush, W., and Co. 67 Business for Disposal and Wanted 27 Butcher, Culloch and Co. TEXT 210 Butler, Culloch and Co. 102 Butcher, Culloch and Co. 98 Butcher, Culloch and Co. 110 </p> <p> C. E. B. 140 C. E. B. 101 C. E. B. 87 C. E. B. 10 C. E. B. 1 C. E. B. 110 C. E. B. 132 C. E. B. 34 C. E. B. 16 C. E. B. 124 C. E. B. 88 C. E. B. 140 C. E. B. 136 C. E. B. 116 C. E. B. 119 C. E. B. 31 C. E. B. 120 C. E. B. 120 C. E. B. 32, 54 C. E. B. 90 C. E. B. 87 C. E. B. 40 C. E. B. 117 C. E. B. 18 C. E. B. 88 C. E. B. 46 C. E. B. 135 C. E. B. 113 C. E. B. 9 C. E. B. 58 C. E. B. 104 C. E. B. 79 C. E. B. 11 C. E. B. 134 C. E. B. 3 C. E. B. 130 C. E. B. 127 C. E. B. 87 C. E. B. 34 C. E. B. 103 C. E. B. 117 C. E. B. 111 C. E. B. 45 C. E. B. 79 C. E. B. 100 C. E. B. 102 C. E. B. 116 C. E. B. 139 C. E. B. 13 C. E. B. 57 C. E. B. 98 C. E. B. 79 C. E. B. 71 C. E. B. 130 C. E. B. 125, 132 C. E. B. 2 C. E. B. 38 C. E. B. 116 C. E. B. 128 C. E. B. 44 C. E. B. 56 C. E. B. 28 C. E. B. 119 C. E. B. 108 C. E. B. 50 C. E. B. TEXT 210 C. E. B. 36 C. E. B. 79 C. E. B. 126 C. E. B. 90 C. E. B. 10 C. E. B. 129 C. E. B. 18, 23, 83 C. E. B. 103 C. E. B. 108 C. E. B. 118 C. E. B. 14 C. E. B. 26 C. E. B. 115 </p>	<p> 28 Corley, J., and Co. 43 29 Corner, R. 120 30 Corry, W., and Co. 79 37 Craven, F. 124 38 Craven, M. A., and Son 47 40 Cresswell, R. and Co. 33 46 Cubley and Preston 119 49 Curry, Lloyd and Co. 44 </p> <p> 1 Darling, W. 32 2 Darton, F., and Co. 15 3 Davenport, J. T. 109 4 Davenport and Co. 52 5a Davison, A. 86 6 Day, Son and Hewitt 120 7 Delacre's Extract of Beef 23 8 De Luca, G. V. 100, 116 10 Denoual, J. 106 11 De St. Dalmas, A. 116 13 Dinneford and Co. 108 14 Dobell, Dr. 9 14a Doddemede, Thos. 110 16 Duncan, Flockhart and Co. 98 17 Dunn and Co. 103 </p> <p> 1 Eastern Counties School 10 2a Edgson, H. 18 6 Ellis and Ellis 24 7 Ellis and Son 71 9 Epps, J., and Co. 116 10 Erdmann, C. 98 10a Eschwege, H. 132 11 Evans, H. S., and Co. 97 12 Evans, J. 101 13 Evans, Lescher and Webb 33, 46, 60, 68, 70, 78, 97, 132 14 Evans, Sons and Co. 33, 46, 60, 68, 70, 78, 97, 132 15 Ewen, J., and Sons 32 </p> <p> 1 Farina, J. M., "gegenüber" 25 1a Farina, J. M., No. 4 61 to 66 1b Farina, J. A. 41 2 Faulding and Co. 90 4 Favarger and Co. 51, 52 5 Fellows, J. L. 105 6 Felton, Grimwade and Co. 89 7 Fennings, A. 140 9 Fèvre 50 11 Finch, Rickman and Co. 132 12 Finzelberg 135 13 Fitch and Nottingham 28 14 Fletcher, Fletcher and Stevenson 8 15a Forster and Gregory 103 17 Foulkes 38 22 Freeman, R. 111 23 Fry and Sons 131 </p> <p> 1 Gabriel and Troke 123 2 Gadd, H. 26 3 Gallais, E., and Co. TEXT 210 5 Gerault 50 6 Gibson, R. 129 6a Giles, Schacht and Co. 92 7 Gilloft, J. 123 8 Glasgow Apothecaries' Co. 114 9 Goddard, J. 119 10a Goodall, Backhouse and Co. 133 13 Gonid, E., and Son 47 16 Greensill 34 17a Gregory, W. 106 18a Gt. Tower Street Tea Co. 133 19 Grindley and Co. 134 21 Gulliver, S., and Co. 59 </p> <p> 0 Haensel, H. 88 2 Hampson, R. 135 5 Hanks, H. D., and Co. 110 6 Hargreaves, J., and Son 43 7 Harris, Philip, and Co. 83 8 Harrison, W. B. 54 9 Harrop, W. H. 126 10 Harston and Co. 59 11 Hart, J., and Son 5 16 Hay, W. 57, 69 17 Hayman 111 18 Haywood, J. S. 112 21 Heliar, E. 122 </p>	<p> 25 Henry, T. and W. 110 29 Hewlett, C. J., and Son 94 30 Heynes, Mathew and Co. 87 35 Hoff, J. 101 36 Hoff, M. 100 39 Holloway, Professor 110 40 Homoeopathic Hospital 10 41 Hooper and Co. 1 41a Hop Bitters 110 43a Hoskin, W. 132 44 Hovenden and Sons 34 47 Hunt, W. F., and Co. 16 48 Hunter 124 </p> <p> 1a Ingham 88 2 Ingram and Royle 140 3 Ingram and Son 136 4 Insule, E. S. 116 </p> <p> 3 Jackson, T. S. 119 4 James and Co. 31 6 James, Lieut. R. S. 120 7 James, R. J. 120 9 Jewsbury and Brown 32, 54 9a Johnson and Son 90 10 Jones, E. B. 87 11a Joseph, A. J. 40 </p> <p> 2 Kaye, J. 117 3 Keene and Ashwell 18 5 Kempthorne, Prosser and Co. 88 6 Kent, G. B., and Sons 46 7 Kermode, R. K. 135 10 Kliner Brothers 113 12 Kimpton, H. 9 14 Kimond and Co. 58 </p> <p> 2 Lalor, Dr. 104 4 Lamplough 79 7 Laurance, H. 11 8 Lazenby, E., and Son 134 9 Leath and Ross 3 11 Lehmann, R., and Co. 130 12 Lemaitre and Co. 127 13 Lennon, B. G., and Co. 87 14 Letchford and Co. 34 16 Levermore Bros. 103 22 Lincoln and Midland Counties' Drug Co. 117 24 Litchfield, P. 111 50 Lloyd, A. S. 45 32 Lloyd, W. H. 79 33 Loeflund, E. 100 36a Longshaw, W., and Sons 102 40 Lumb, J., and Co. 116 41 Lynch and Co. 77, 139 43 Lyon Brothers 13 Lyons, J., and Co. 57 </p> <p> 3 Macfarlan, J. F., and Co. 98 4 Mackay, J., and Co. 79 5a Maignen 71 13 Mawer and Co. 130 14 Maw, S., Son and Thompson 12, 51, 35, 115, 125, 132 </p> <p> 15 May and Baker 2 16 Metz, Paul 38 17 McLachlan, J., and Co. 116 17a McMaster, Hodgson & Co. 128 19 Millard, Son and Appleton 44 21 Mills, R. M., and Co. 56 Miscellaneous 28 28 Morrison and Thew 119 30 Mothershead and Co. 108 31 Mountain and Co. 50 32 Mumford, G. S. TEXT 210 33 Murphy, J. 36 </p> <p> 0 Nash Brothers and Lawton 79 1 National Chemical Co. 126 2a Negretti and Zambra 90 3 Nelson, Dale and Co. 10 5 Nesde, H. 129 7 Newbery and Sons 18, 23, 83 10 Newton, Keates and Co. 103 11 North British Chemical Co. 108 </p> <p> 1 Oakley and Sons 118 3 Orme and Co. 14 4 Orridge and Co. 26 5 Osborne, E. M. 115 </p>
--	---	--

Index to Advertisers—continued.

4 Pattison, G.	29	18a Shelfanger Waters, Proprietor of	54	25 Tyler, Hayward, and Co.	48
6 Peterson and Co.	36	20 Silicated Carbon Filter Co.	74, 75	26 Tyrer	131
7 Prahler	86	22 Skinner, G. H.	73		
11 Pickering, J., and Sons	118	22a Skuse, E.	9	1 Vallet, L.	68
14 Plomer, E., and Co.	87	26 Smith and Gibb	26	2 Van Voorst	9
16 Polglase, F. J. W.	123	31 Smith, J. G.	56	4 Victoria Bitter Water	49
16a Polimeni F. S.	104	30 Smith, T. and H.	94	Vin Santa	64
17 Poths, H., and Co.	112	28 Smith, T. J.	135		
18 Pritchard & Lloyd	122	32 Smith, W. F.	106	1 Walker and Dalrymple	133
18a Prosser, E., and Co.	89	33 Snook, G. F., and Son	37	2 Wand, S.	104
20 Pulvermacher, J. L.	83	34 Solport Bros.	38	3 Warner, W. R., and Co.	23
		35 Southall Brothers and Barclay	82	4b Waterston, G., and Sons	131
2 Randall and Sons	90	36 South London School of Pharmacy (W. Baxter, secretary)	10	4a Watson and Co.	87
3 Rayner and Co.	72	38 Spratt	122	7 West, Thomas	32
4 Rayner, L.	133	40 Squire, P., and P. W.	93	7a West, W., and Co.	65
8 Rimmel, E.	30	42 Stedman,	210	9 Westminster College of Chemistry and Pharmacy	11
10 Robbins and Co.	108	44 Stevens, P. A.	32	12 Whiffen, T.	36
11 Roberts and Co.	86	45 Stewart, R. S., and Co.	42	13 Whitaker and Grossmith	51
13 Robinson, B.	128	51 Sussex Drug Co.	106	13a Whitmee, J., and Co.	128
16 Rogers, W.	34	53 Symes and Co.	92	14 Wigan, H., and Co.	134
18 Ross, W. A., and Co.	59	54 Symes and Co. (Simla)	87	15 Willocks, N. G.	28, 53, 55, 56, 71
19 Rowland, A., and Sons	13			16 Willan, W.	4
19a Rowland, L.	11	3 Taylor, T. and F. J.	135	17 Williamson and Sons	126
20 Rubeck, H.	89	4 Tench and Taylor	27	24 Woods, W.	32
		6 Thompson and Capper	47	25 Woolley, Sons and Co.	92
2 Salmon, Ody and Co.	112	6a Thompson, F.	79	26 Wrangham, R. H.	110
6 Sands Manufacturing Co.	42	9 Tintplate Decorating Co.	42	27 Wright, J. W.	72
7a Sauter	18	10a Tittensor	56	28 Wright, Layman and Umney	92
7b Savars	39, 78	12 Tomlinson and Hayward	121	28a Wright and Holdsworth	125
8 Savory and Moore	82	13 Tomlinson, R.	127	29 Wyleys and Co.	9
10 Schieffelin and Co.	20	15 Toogood, W.	114		
11 Schmedes and Co.	30	16 Towle, E. T.	117		
12 School of Pharmacy, Bloomsbury Square 10		17 Treble, G., and Son	127	1 Yates, W. S.	11
14 Schweppe's mineral Waters	TEXT 210	18 Trippier	76	2 Young H. (G. Pattison, proprietor)	21
15 Seabury and Johnson	137	20 Tully, J.	10	1 Zimmermann, A. and M.	99, 10
16a Seeley, I. B.	112				

Advertisers' and Buyers' Reference List.

N.B.—The letters and figures which follow the headings—A, B, 3, &c.—refer to the left-hand column in the Index of the Advertisers' names on the preceding page. The buyer in search of dealers in Quinine will find certain letters and figures in this Index. By referring to the Index Advertisers he will find the pages indicated on which Quinine is advertised.

ACETIC AC. D 17. AERATED & MIN. WATERS A 2a, A 12, C 9, E 6, E 7, G 3, G 21, H 8, H 10, H 16, H 41, L 2, J 9, M 21, R 18, S 14, S 18a, S 22, T 3, K 14, B 34, O 2a, V 4. DITTO BOTTLES B 15, D 4, B 14, V 1, G 5, F 9, F 4, M 31. DITTO PLANT B 14, B 36, C 42, D 4, F 4, T 25, W 15, W 1a, B 33a. AGENCIES ABROAD B 9, B 18, B 30, P 18a, W 4a, C 4, F 2, H 39, J 10, K 5, L 13, P 14, P 7, D 5a, E 10, H 11, E 14, F 6. ALKALOIDS S 31, W 12, M 3. ANALYT. CHEMISTS C 27. ANNATTO M 17a, A 11. APPARATUS, SCIENT. D 2, M 16, O 3, W 24a.	P 16a, H 9. ETHER M 15, P 16, R 10, E 10. EUPHORBIA PILULIF. I 1a. EXT. MEAT, &c. A 16, B 25, F 76, D 7, L 21. EXT. CINCHON. FL. W 28, G 6a, C 18. FEEDING BTLs. K 10. FILTERS S 29, W 24a. FLAVOURING ESS. B 78, M 15, M 17a, B 33a. FOODS B 54, M 30, C 13a. FRUIT SYRUPS B 23. FULLER'S EARTH B 39. FLY KILLERS M 14, E 14. GINGER ESS. B 78, H 16, B 33a. DITTO BEER POWDER W 27. GLACIAL A 11. GLVS. B 14, E 14, P 4. S 33. GLYCERINE S 11, Z 1. GRANULAR PREPS. M 4. GUM EXT. B 78. GUMS M 28. GUTTAPERCHA, WHITE S 44, D 16, E 10. GRINDING MILLS W 12a.	B 81, R 10. PETROLEUM, &c. C 19, C 10. C 22. PERFRY & SOAPS B 61, L 1, B 76, R 19, C 12, L 38, R 8, S 11, W 7, W 13, F 16, R 19, B 58, P 17, L 30, B 43, E 1. PHARM. PREPS. S 53, F 14, B 76, H 3, G 6a, S 40, C 18. PHOSPHORIC AC. N 10. PHOTOGRAPHIC CHEM. R 12a, M 15. PILL MACHINES C 18. PILLS (Coated) S 10, W 3, W 25, W 2. H 2. PLASTERS D 11, E 14, S 15. POLISHING PREPS. B 20, B 52, C 46, E 14, G 01, P 11. POULTRY CONDENSED P 13. PRICE LISTS T 15, J 2, E 13, T 1.
BAKING POWDER G 10a. BARRYTA SALTS. BEDS, WATER H 41. BISM. SALTS M 15. BOOKS D 14, S 30, G 9, L 13, K 3, K 12, M 14, N 3, S 22a, S 30, V 2, B 4, C 15. BOOT POLISHES B 66a, N 12. BORAX B 45. BOTTLE CAPS H 47. BOTTLES & POTS B 15, K 10, L 4, B 27, B 66, D 8, G 8, L 40, M 17, M 31, P 17, T 15. BOXES, WD & TIN M 16, S 27, T 9, W 17. BRUSHES K 6, S 46.	HAIR PREPS. B 63, J 4, H 44, R 16, L 9, W 24. HERBS B 80. HOMEO-PATHIC B 79, G 13, K 3, L 9, T 6, E 9. HOSPITALS H 40. HYDRIODIC AC. SYR. A 3. HYPOPHOSPHITES S 8, S 53, F 5, F 15a, S 40.	QUININE SALTS B 42, W 12. RENNET A 11, M 17a. SALICYLIC AC. Z 1. SALIN L 4, E 13, N 0, M 4, B 37. SAUCES I 1, M 14, G 10a, E 14. SCHOOLS, &c. C 0, C 1, S 36, S 12, W 9, T 20, E 3. SEIDLITZ POWDERS. C 14, S 42, C 26. SELTZ GENES G 5, F 9, B 42. SHEEP D T 12, C 20a, B 34. SHOP FITTERS H 4, T 13, T 17, B 50, Y 1, L 12. S 19. SMELLING SALTS W 16. SOAP L 19, B 53, C 0. SODA PHOSPH. N 10. SPECTRO D 2, L 7, C 10a. SPIRIT B 75, S 26, I 1. METHYL. W 4. SPONGE C 40, M 14. H 11. SPRINKLER STOPPERS E 15. STAMPS, RUBBER C 15a. STAR & GLAZE H 9, M 32, S 6. STYCO NINE W 12. SUPPOSITORIES I 1. SURGICAL A 13, B 3, H 18, P 20, L 43, S 2, C 49, L 32. SYMPHONS B 62, V 1, M 31, F 4, T 25, G 5, K 10, W 7a, 1. SYRUPS F 14, S 13, A 3, D 16, G 6a.
CACAO BUTTER B 53. CAMPBELL M 15, E 14. CAPSULES D 10, B 67. CARBOLIC ACID, &c. L 36a, Z 1. CASTOR OIL A 3. CEMENTS F 17. CHALK PRECIPITATED L 16. CHEKAN W 29. CHEMICALS M 15, N 10, N 11, F 15a, L 36a, P 7, Z 1, O 3, S 31. CHINOLINE Z 1. CHLORODYNE D 3, T 16, F 22. CHLOROFORM D 16, M 3, Z 1, E 10, S 31. COCOA & CHOCOLATE F 23, C 1. CODLIVER OIL A 3, C 2, S 28, S 35, W 25, W 29, B 58a. COFFEE B 13, C 7. COLLAPSIBLE TUBES B 66. CONFECTIONERS' BOOKS AND PLANT C 20a, C 38, S 22a. CORKS B 58b. CORN CURES A 10, C 28, H 6, R 13, S 33, T 6a, S 34, Y 2, E 14.	ICE H 8. INK B 29, D 16. IODINE N 11, Z 1. ISINGLASS W 14, G 19. KETCHUP T 26. KOUMISS A 17. LABELLING ON GLASS T 10a. LEECHES F 13. LINSEED W 26, K 4, C 22, M 32. LINT M 14. LOZENGES A 3, B 74a, C 38, G 6, M 16, R 2, T 16. LIME JUICE, &c. E 14, R 3. MAGNESIA D 13, C 30, H 25, M 4, B 37. MALT EXTS. E 12, H 35, H 36, L 33, W 29. MAKING INKS B 5, B 44, M 33, L 14. MEASURES, GRD. M 14, T 15. MEDICINAL CHESTS L 9, D 6. MERCURIALS M 15. MILK PREPS. A 17, N 5, L 11. MIXING MACHINES B 51. MORPHIA M 3, S 31. MUSK S 54. MUSTARD. NAPHTHA C 19.	TEA W 1, G 18a. TELEPHONE O 3. THERMOMETERS D 2, 1. TOBACCO, &c. W 4a. TOOTHACHE CURES G 17a. TINCTURE PREPS. B 76. TIN FOIL B 67. TRUSSES S 2, H 18, S 15a, E 14. VALUERS B 59, O 4, T 4, T 18, 1. VERMIN KILLERS B 10, B 19, L 7, H 21, H 48. VETERINARY C 26a, D 6, G 1, H 21, J 7, J 6, T 2, S 33.
DENTIFRICES D 1, J 9, M 19, W 24, L 9, T 6, N 7, B 24, D 14, W 4a. DENTISTRY B 70. DISINFECTANTS C 23, C 24, C 25, N 1, R 8. DOG BISCUITS, &c. E 14, S 38, H 21, W 28a. DRUGS'SUNDRIES M 14, T 15, M 11, B 6, B 27, C 49. DYES S 6, L 36a.	OIL W 26, C 19. OINTMENT BASES A 3, C 12, E 15. PAINTS & VARN. A 6, C 22, J 3, S 6. PANCREATINE S 8, M 30. PAPER CABINET L 41. PATENT MEDICINES A 15, B 25, E 2a, L 22, L 24, S 51, F 7, H 39, K 2, L 2, L 9, M 19, R 11, S 32, S 39, S 42, T 12, W 2, H 5, S 6a, H 17, B 83, H 41a, F 5, B 76, E 12, O 5. PENS G 7. PEPSINE & PEPTONE M 19, M 30, B 46, F 12, S 8, H 29, Z 1, S 40. PEROX. HYDROGEN B 63,	WHOLESALE AND EXPORT DRUGGISTS B 6, B 16, B 73, C 27, E 15, F 18a, W 4a, P 7, M 19, W 29, S 33. WATERS—CONCENT. R 13. WAX D 14a, W 26, W 4b, J 9a. W 18 B 74a, B 76, E 14, J 2, R 13. ZINCOX H 7.

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The manufacture of officinal and other ready-made Pills for Physicians' prescriptions has been, on our part, confined to those coated with sugar and round in shape; because an experience of more than a quarter of a century serves to convince us that sugar is the only proper material with which to coat a pill; in confirmation of which we append the following reason :—

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- That according to our process, no sub-coating of insoluble shellac is necessary.
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- Sugar as a coating is not incompatible, as is the case with gelatine, when brought in contact with certain kinds of food, astringent fruits, or wine containing Tannin, by which it (gelatine) is converted into a condition the basis of leather.
- The preservative properties of sugar, and the tendency to attract rather than yield moisture as gelatine does, prevent the subsequent drying and hardening of the pills.
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- The colour and shape of some gelatine-coated pills are so inelegant by comparison with the round, white sugared pill, as to be repulsive to sensitive patients.
- Actual experiments, which you are enabled to perform as to solubility and the administration of a dose of cathartic pills, the effect of which is soon apparent, will practically demonstrate the truth of our claims for the superiority of WARNER & Co.'s method over ALL others for coating pills.

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ARE prepared from the prescriptions and under the direction of an eminent London Surgeon, and perfected for general use by

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THE Arthritic Salines { PURIFY THE BLOOD FROM THE "POISONOUS STUFF" WHICH ACCUMULATED, TAKES THE SHAPE OF GOUT, OR OF RHEUMATISM OF DYSPEPSIA, OF BILIOUS DISORDERS, IMPERFECT ACTION OF THE LIVER, BOWELS, SKIN, AND KIDNEYS, &c.

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ARTHRITIC
SALINES
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THESE:



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3. "The Arthritic Saline—Tonic" is likewise an Effervescing Powder, with the addition of several well-esteemed tonic constituents. Retails at 3s. 6d. bottle.

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It may interest the reader to learn that this singular Spring was discovered by a member of the Firm five years ago, on driving down an artesian spring to a depth of 300 feet. The water rises in a solid column over twelve (12) feet from the ground, and has never varied, summer or winter. It is excellent for all ailments and possesses very singular properties.

The Arthritic Salines are the GREAT FAMILY MEDICINE of the day—safe for every age, and suitable for the majority of the derangements of the human system.

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WE are the only Manufacturers who send out SPECIMEN QUANTITIES of our Remedies (Nos. 2 and 3), so as to enable any "Victims of Gout" and allied disorders, to form their own opinion as to their excellent properties. For Six Stamps we deliver free a Box holding ONE DOSE. These can be had by Chemists on very low terms.

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RAVEN SPRING, MITCHAM, SURREY.

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of Wales; William, King of Prussia;



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of Russia; Francis Joseph, Emperor of Austria;
Lewis, King of Portugal; H.R.H. Frederick
William, Crown Prince of Prussia.

In consequence of increasing inquiries from the Colonies for my Eau de Cologne, the only genuine, I
submit my Price Current.

At the same time I beg to call special attention to the following facsimile of my Trade Mark, for the
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I only prepare one quality of Eau de Cologne. This quality never varies in the slightest degree, and there
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Orders equal to at least 12 dozen short bottles will be promptly executed at 12s. 6d. per dozen, against my
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A 10 per cent. discount is allowed for orders equal to at least 100 dozen, but on no smaller quantities.
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" 2. Short White Bottles	12 "	
" 3. Double ditto	6 "	
" 4. Wickered Bottles (small)	8 "	
" 5. ditto (medium)	4 "	
" 6. ditto (large)	2 "	

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- 3.—LONDON, N.—Retail and Prescribing business; very profitable; situated in a rapidly-increasing locality; returns, £750 yearly; price, £600.
- 4.—LONDON, SUBURB, S.E.—Old-established business in pretty locality; returns, £600 yearly; price, £550; good house and garden.
- 5.—LONDON, E.C.—Near the Bank; net profit over 50 per cent; about £1,600 required; particulars on application.
- 6.—LONDON, S.E.—Retail and Prescribing; doing at the rate of £400 yearly (nominal expenses); price, £300.
- 7.—KENT (about 12 miles from town).—In a pretty locality, and without any important opposition, Dispensing and Retail business, with comfortable house, garden, conservatory, &c.; returns nearly £700 yearly; price, £660.

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10.—HANTS.—Small business, situated in a first-rate town; returns £300; price, £275; no reasonable terms refused.

11.—WILTS.—In a good Agricultural Town, an old-established business well situated in a principal street; returns over £500; profits good; some shop and good house; rent low; price by valuation or as offered.

12.—WILTS.—Agricultural Town, good class Retail and Mineral business; capital premises and good shop; returns over £800 yearly; price to be arranged; or stock and fixtures at valuation.

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BIRMINGHAM.—First-class Retail, Dispensing, and Prescribing, in pleasant suburb; returns from £600 to £700; goodwill, £100; stock and fixtures at valuation, about £400; good house, low rent.

CHESHIRE.—Old-established County Retail; returns £940; net profit, £500; vendor realised a fortune; price about £1,100.

SHEFFIELD.—Light Retail and Prescribing; established half a century; fine position; returns over £600; at valuation, about £600.

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YORKSHIRE.—Retail and Good Prescribing; returns £1,000; net profit, £400; illness cause of sale; price, £850.

WORCESTERSHIRE.—Retail and Prescribing; returning £10 per week at full prices; satisfactory reason for sale; at valuation, about £250.

STAFFS.—Retail and Prescribing, at full prices; returns about £600; at valuation, about £350, or fixtures, worth £200, can remain and rented.

MANCHESTER.—Prescribing and Light Retail; commanding corner; returns under assistant £600, have been £1,000 under vendor's personal attention, and could be again; exceptionally fine chance for business man; at valuation of stock and fixtures, about £400.

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SOUTH COAST.—First-class Retail, in finest position of one of the most fashionable resorts; fitted in first-class style; cost £600; to a Major man this presents an excellent opportunity to develop with a really first-class pharmacy; not long established; returns now £500.

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TO BE SOLD by PRIVATE TREATY, as a going concern, an old-established (1838) and well-known Drug and Drysaltry splendid corner position; main thoroughfare; densely populated neighbourhood; genuine and rare opportunity; satisfactory and reasons for disposal; will stand the strictest investigation; immediate purchaser will be sold at a great sacrifice. Particulars the premises to R. H. Kellett, 144 Great Jackson Street, Huddersfield.

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2. **ONDON, E.**—Prescribing and General Retail; returns (under management), £422; rent, £65; 14 years' lease; price, £265.
3. **OTS.**—Retail, Prescribing, Dispensing, and a little Dentistry; returns, £200 at good prices; rent, £14 6s. per annum; five roomed house, private entrance, good garden; price, £280 cash.
4. **ANTS.**—Death Vacancy.—Grand opportunity for purchasing an old-established business, which has been in the late Proprietor's hands 26 years; rent only £40; price only £250.
5. **ONDON, E.**—Old-established Prescribing Retail Business; returning £250 per management; rent, £50; price, £200, or £50 goodwill; and the stock fixtures at valuation.
6. **ONDON, W.C.**—Ready-money Retail and Prescribing; returns, £315; 3-roomed house, with private entrance; rent, £65; price, £250; vendor advanced age cause of sale.
7. **JLL.**—Prescribing and Dispensing with Fancy Retail; nicely fitted and well stocked Pharmacy; rent only £22; 6-roomed house; lease can be had; turns are now £8 10s. weekly, and increasing; price, £300; open to an offer.
8. **ANCHESTER.**—Dispensing, Prescribing, and Retail; fairly well fitted and stocked; returns over £600, at good profits; 10-roomed house, with private entrance; price, £350.
9. **ONDON, S.E.**—Death Vacancy.—Mixed Retail and Prescribing; established by the late Proprietor five years; situate in good position in main thoroughfare; returns, under manager, £500; rent only £8 on lease for 32 years; 10-roomed house, with private entrance; price (including the very valuable lease), £700.
10. **USSEX.**—Genuine Retail, Prescribing, and Dispensing; in present hands nearly five years; well fitted (by Treble) and stocked; returns, £618 per annum; gross profits, £320; rent only £30; about 10 years' lease to run; 9-roomed house, private entrance; price, £650; no opposition.
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12. **ONDON (WEST).**—High-class Dispensing Business with several good proprietary articles; established over 25 years; returns, under management, about £900, at first-class prices; price, £1,000; open to any offer.
13. **ANCASHIRE.**—General Retail, well fitted and stocked shop; returns average £1,144, at full prices; 6-roomed house; rent only £45; price, £350.
14. **INCOLNSHIRE.**—Mixed business; established 20 years; returns (under management), £700; 9-roomed house; rent, £40 on lease; price, £300.
15. **ILTS.**—Old-established good-class light Retail and Dispensing Business; situated in good central position; returning £520; convenient 10-roomed house; rent, £55 on lease; price, £400; open to a reasonable offer.

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German seeking investments are respectfully requested to forward full particulars of their requirements.

Preliminary inquiries by vendors answered, and a registration made of all businesses for disposal, free of charge.

N.B. Appointments for Valuation should be made (if possible) at least seven days beforehand.

WORKS BY AUCTION, &c. (continued).
WORKS OF THE LATE LANCASHIRE TAR DYES COMPANY.
TO BE SOLD BY PRIVATE TREATY, the whole of the WORKS and PLANT of the late Lancashire Tar Dyes Company, comprising Leasehold and Buildings, and the Engines, Boilers, Pumps, Retorts, Benzine Plant, Triflers, Reducers, Aniline and Melt Plants, Extractors, Wood and Iron Sells and Tanks, complete Gasworks, Sheds, Workshops, Offices, &c., &c. The lease is for 99 years from May 12, 1877, and is subject to an annual rent of £100. The Land and Site of the works contains 5a. 0r. 16p. of statutory measure. The works, which are entirely new, are well supplied with water, and adjoin the Lancashire and Yorkshire Railway at Gath (three miles from Wigan), are bounded on the north and west sides by the River Douglas and the highway from Orrell to Standish, and include a large space of vacant land suitable for building or other purposes. The works and plant apply on the premises; and for further particulars apply to Mr. Thomas Wall, Observer Office, Wigan.

TO LET.
MITCHAM.
TO LET, the Mitcham Stillery (formerly Arthur's), consisting of theillery, containing 2 stills and necessary appliances, 2 cottages, stable, and 2 acres of land. For particulars and orders to view apply to Messrs. Burt and Martin, Land Agents, Croydon.

TO LET, in a prosperous market town in Sussex, a fine Shop and good roomed house; the shop occupies a commanding position near the Railway Station, suitable for any business, but especially for Draper or Grocer (Butcher or Grocer debarred). Address, J. 766, Sell's Advertising Office, Bolt Court, Fleet Street, E.C.

TO CHEMISTS AND DRUGGISTS.

TO BE LET, at 140 Leadenhall Street, E.C. (opposite East India Avenue), a handsome Shop and Basement, for the last 180 years occupied as Chemists and Druggists', and now occupied by Messrs. Corby, Stacey & Co.; vacant possession at midsummer. For cards to view, apply to Messrs. Jones, Lang & Co., 101 Leadenhall Street, and 3 King Street, Cheapside, E.C.

BUSINESSES WANTED.

WANTED, to Purchase a genuine Prescribing, Dispensing, and Family Retail Drug Business, returning from £700 to £900 per annum, situate in Cheshire or Lancashire; must bear the strictest investigation. Address, in first instance, with full particulars, in strict confidence, to A. Z., care of THE CHEMIST AND DRUGGIST, 44A Cannon Street, London, E.C.

BUSINESSES FOR DISPOSAL.

A SMALL Profitable Dispensing and Prescribing in the suburbs of Liverpool; no opposition; to be Disposed of cheap; owner leaving England. D. C., care of Evans, Sons & Co., 56 Hanover Street, Liverpool.

CHEMISTS' and Dispensing Business for Disposal; old-established; present owner retiring; West-end of London. Address, F. W., Street Brothers, 5 Serle Street, Lincoln's Inn, W.C.

FOR £80 ONLY.—A Bargain; to be Sold, a complete and excellent set of Chemists' Mahogany fixtures, estimated value £170. Address, Verus, Messrs. Evans, Sons & Co., Hanover Street, Liverpool.

TO CHEMISTS.

A N OLD-ESTABLISHED Business in the Country for immediate Disposal, owing to sudden death of Proprietor; goodwill and fixtures £250. Apply to Executor, 85 Gracechurch Street, London, E.C.

A BUSINESS for Sale in a distant colony; sales, £100 monthly; profitable; purchase £500, including building and stock; ground rent £36 per annum. Address, A. E., care of Messrs. George Carling & Co., 30 St. Mary Axe, E.C.

FOR DISPOSAL, at the end of June, a genuine Retail and Dispensing Business; established 26 years; average returns the last 8 years over £1,100 a year; good house and garden, with warehouse attached; proprietors retiring from business. Apply, W. H. Hancock, Chemist, Dursley.

TO CHEMISTS AND DRUGGISTS.

FOR IMMEDIATE DISPOSAL, an old-established Business in a large village within 10 miles of Bristol; suitable for energetic man with small capital; no opposition within 5 miles. Apply, W., care of J. S. Pitt, 15 John Street, Bristol.

TO CHEMISTS AND DRUGGISTS.—FOR IMMEDIATE DISPOSAL.

THE Valuable Stock-in-Trade, Fixtures, Goodwill, &c., of the late Thomas Brook Senior; the Business, having been successfully carried on by Mr. Sculor for 24 years, renders the opening a very desirable one for an active and energetic man. Apply, No. 14, Kirkgate, Wakefield.

A GENUINE old-established Business, for immediate Disposal, in the country; over 8,000 inhabitants; stock and fixtures at a valuation, under £300; returns over £500, at good prices; most commodious premises; rent and taxes low; owner retiring. Apply, "Escalop," care of Hearon, Squire & Francis, Coleman Street, London.

TO BE DISPOSED OF, a Business, established 3 years, in the midst of potteries and collieries in the Staffordshire Potteries, with increasing returns; no cutting prices; very roomy, double-fronted premises; no goodwill; fixtures only need be taken to; death sole cause of leaving. Apply, G. Hume, Chemist, Loughton, Staffs.

TO CHEMISTS AND DRUGGISTS.

A FIRST-CLASS BUSINESS for Disposal in Atherstone, Warwickshire; a good dwelling-house and garden, and every possible convenience for doing a large and successful trade; a lease of the premises may be had. Apply to T. Kiddle, Accountant, Hinckley, Leicestershire.

TO WELSHMEN.

A SMALL-PRICED BUSINESS to be had in Liverpool on paying a deposit and finding security for the balance; on tramway route, eastern district; rent, £40; some years established; a pushing, sober man only will be accepted. Address, "Caloral," care of Fearnall & Co., Post Office Place, Liverpool.

I N a densely-populated part of London, five minutes from London Bridge, one of the best ready-money Businesses in the South of London; good retail Prescribing and Dispensing. Full particulars supplied to bona fide inquirers, but those who cannot command £1,000 are respectfully desired not to communicate, as the business is sound, and this is the lowest cash price. Address, Mr. J. E. B., care of Wyleys & Co., Coventry.

I N a Country Market Town in Lancashire, a Business is for Disposal; rent and taxes £20; returns average £10 per week; light retail and prescribing trade made at full prices; there is a little dentistry attached; no heavy trade at all; cash price, £400, part of which might remain on approved security. Address, "Zeta," care of Mr. J. M. Richards, Great Russell Street, London.

FOR DISPOSAL, through ill-health, an old-established Mixed Business in a small Market Town in Somerset; no opposition within five miles; full prices obtained; large double-fronted plate-glass shop; stores; yard; walled-in garden; coach-house and stabling; stock and fixtures at valuation. Full particulars upon applying to A. Z., care of Messrs. Barron & Squire, Bush Lane, London.

OLD-ESTABLISHED, neatly fitted, well-stocked corner shop; house attached; £16 clear; returns £328 last year; £6 teeth; no opposition; could be greatly improved; excellent opportunity for prescriber and dentist; paint and cattle medicines; satisfactory reasons given; no reasonable offer refused. Apply, "Statim," Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

CERTAIN FORTUNE to Surgeon or Chemist.—A sober, energetic man, who can pay £50 down, may have a Retail in one of the best positions, in or out of London, to do a pushing business; market position and densely populated neighbourhood; the owner, who cannot attend to it, will accept payment of the balance by easy instalments; rent £60. Apply first at 846 Old Kent Road.

A COMPACT Manufacturing, Drysalting, and Chemical Business in London for Disposal, through the retirement of one of the partners; the travelling partner would remain as traveller on special terms, or allow his capital to remain; good safe, old-established country connection among medicine buyers; the business could be worked to great advantage in connection with another. Address, Frank Kay, 39 Park Street, Stoke Newington, N.

GLASGOW.

FOR SALE, high-class Dispensing and Retail Business, full priced, in one of the fashionable suburbs of the city. The shop, a corner one, is large, well-stocked, and handsomely fitted up; the most commanding in the district; the opposition is nominal; returns fully £500 per annum; capable of great increase by personal management; being a substantial concern, the strictest investigation allowed, and introduction given; price £500; the present proprietor retiring from the retail trade; to a person possessed of the necessary capital, this is an opening rarely to be met with. Particulars from Evans, Sons & Co., Wholesale Druggists, 56 Hanover Street, Liverpool.

PARTNERSHIP.

SOUTH OF FRANCE.

PARTNER in first-class Dispensing Business; excellent opening for young man with small capital; splendid central position, large returns, and yearly increasing; favourable terms to a first-class chemist, including right to purchase at any time during 15 years' lease; best London reference. Address, L. M. P. S., care of Messrs. Bowles & Cross, 3 Lambeth Hill, Queen Victoria Street, E.C.

EMPLOYERS WANTING ASSISTANTS.

WANTED, an Apprentice or an Improver. J. B. Clarabut, Chemist, Deal.

APPRENTICE.—A vacancy for a well-educated youth as above, in a good class business. Full particulars of "Chemicus," Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

APPRENTICE OR IMPROVER.—Wanted, by a Pharmaceutical Chemist doing a good Dispensing business; must have passed the Preliminary Examination. Address, E. L. Hickey, 199 King's Road, Chelsea, S.W.

WHOLESALE WAREHOUSEMAN WANTED; must have had thorough experience in a good house. Address, P. B., care of Mr. Algar, 11 Clement's Lane, Lombard Street, London.

WANTED, a Junior Assistant, for a first-class trade. State age, experience, salary required (outdoor), and enclose photograph, to be returned A. Z., Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

WANTED, at once, an Assistant for a Select Retail and Dispensing Business; none need apply whose character will not bear the strictest investigation. Apply to R. Twemlow, Chemist, &c., 91 Upper Brook Street, Manchester.

RANDALL & SON, Southampton, require immediately, an indoor Assistant, age about 22 or 23, with Minor qualification, but willing to take any part; experience in best class trade and high personal character indispensable; salary begin about £40; state age, height, last two situations, &c.

TRAVELLER.—Wanted, an experienced and thoroughly competent Traveller accustomed to call on medical men; must have good address and unexceptional references. Apply, by letter only, addressed S. & Co., care of Allen & Hanburys, Plough Court, Lombard Street, E.C.

WHOLESALE DRUG TRADE.

REQUIRED, a Traveller for the South Coast, having experience and connection among Surgeons, Hospitals, &c. Apply, with full particulars, to "Traveller," Messrs. Adams Bros., Bury Street, London, E.C.

AN EXPERIENCED ASSISTANT, about 26, as Senior in a good Business house; must be energetic, of good address, thoroughly steady, and reliable; comfortable home; Nonconformist preferred. State age, height, experience, salary (indoors), and when at liberty, enclosing reference and carte (to be returned), Anthony & Biss, Bedford.

PARISH OF BIRMINGHAM. APPOINTMENT OF DISPENSER AS ASSISTANT TO THE WORKHOUSE MEDICAL OFFICERS.

THE GUARDIANS OF THE POOR of this Parish require the services of a DISPENSER at their Workhouse.

No person is qualified to be appointed Dispenser unless he shall have been duly Registered under the Pharmacy Act of 1863, and he will be required to devote his whole time to the service of the Parish.

Salary £130 per annum.

The Dispenser will have to attend at the Workhouse at fixed hours and whenever required for the purpose of dispensing medicines, and he must not accept any other engagement whatsoever. He must also reside within half a mile of the workhouse.

Applications must be made on a Form to be procured at these Offices, and none others will be entertained. The same must be endorsed "Dispenser," and forwarded to me not later than Saturday, the 20th inst.

Canvassing the Guardians will be considered a disqualification.

By Order,

WALTER BOWEN,

CLERK TO THE GUARDIANS.

Parish Offices, Paradise Street,
May 6, 1882.

ASSISTANTS WANTING SITUATIONS.

WITH Chemist and Dentist; aged 22; capable of doing mechanical dentistry. C. D., 4 Crane Hill, London Road, Ipswich.

WHOLESALE OR RETAIL; aged 31; experienced in both branches; good references. E. Martindale, 35 Sweetman Street, Waterhampton.

AS ASSISTANT; outdoors; aged 25; 6 years' experience in general business; can extract teeth. 183/11, Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

ASSISTANT; Wholesale or Retail; England or abroad; 9 years' experience in Glasgow and neighbourhood; 23 years of age; height 5 feet 9 inches; highest testimonials. H. D., Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

WANTED, a Situation in a first-class Wholesale Drug House, by a young German; 4 years' experience in Germany; fair knowledge of English; bookkeeping, correspondence, and all kinds of office work. Apply, H., Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

A YOUTH, residing in London, who has passed the Preliminary examination of the Pharmaceutical Society, wishes for an Engagement with a Chemist in London or its suburbs; premium moderate. Apply to letter to Mr. Porter, 62 Great Percy Street, Pentonville, London.

TO CHEMISTS, DRUGGISTS, SURGEONS, &c.—A steady married gentleman requires Position as Manager or otherwise; knows business thoroughly; Wholesale and Retail; good references, or security required; town or suburbs preferred. Address, "Chemist," 1A Palm Road, Upper Holloway.

TO THE MINERAL-WATER TRADE.—Wanted, a Situation as Working Foreman; 25 years' experience at home and abroad; thorough competent; accustomed to high-class trade only in cork goods and syphons; bottle, knee, or rack; able to take charge in absence of principal; aged 39; salary, £2 a week summer, 28s. in winter; 9 years' character from last employer. J. B., 2 Rushmore Terrace, Leamington.

MISCELLANEOUS.

TO THE AERATED WATER TRADE.—Bottlers and others wanting Situations, Employers requiring Bottlers, &c., write to N. G. Wilcocks, Back Street, Bath. No charge whatever.

OCCUPATION for Gentlemen's Sons on selected Farms in Canada or the United States, where they will be in a good climate entirely self-supporting, and able to start for themselves; premium required £60 to £80. For full particulars, address, American Colonisation Company, 21 Finsbury Pavement.

A CHEMIST of 20 years' experience is prepared at once to qualify in a few months one or two gentlemen. A thorough practical knowledge of good Counter business, Dispensary for Surgeon or Chemist, Prescribing, and General Management, of Chemist business or of Surgery. For further particulars, apply, Freemason, care of F. Newall Son, 1 King Edward Street, Newgate Street, London, E.C.

SMALL CORKS, 1d. per gross, larger sizes in proportion. These Corks are the solid portion of Patent Hollow Corks cut by machinery for the Aire and Company Glass Bottle Company's Patent Stoppers, 83 Upper Thames Street.

STORES versus FAIR TRADE.

THE only rational mode of competing with Stores is by Cutting Prices for Chemists to produce their own Medicines. Specialities; buyers benefit, sellers profit by it. Chemists requiring tried reliable formulae (collected and proved at great expense) supplied reasonably; satisfaction guaranteed; detailed lists free. Note my advertisement in "Exchange Column," page 228; observe price, and terms.

T. BROOKS, Chemist, LOUTH, LINCOLNSHIRE.

GEORGE PATTISON'S

LIST OF

BATH GLOVES, &c.

ponge Gloves, No. 1	.....(best white. Retail, 6d.)	4/0 per doz. pairs
ponge Gloves, No. 2	.....(best white, large, with red binding)	4/8 " "
ponge Gloves, No. 3, C quality	.....(thin white)	3/0 " "
ponge Gloves, No. 4, C quality	.....(thin white, large, with red binding)	4/0 " "
den sponge Gloves, No. 1	.....or Turkish (best white, extra stout quality, large)	5/0 " "
den sponge Gloves, No. 2	.....or Turkish (best white, extra stout quality, medium and small)	4/6 " "
ent Sponge Gloves	.....(very superior stout white, with red stripes)	6/8 " "
opa a Sponge Gloves	.....(fine quality white, with red stripes)	5/0 " "
rma Sponge Gloves	.....(cream or unbleached white, soft and spongy)	5/0 " "
apre: Sponge Gloves	.....(crisp, white, with fancy stripes)	5/0 " "
onari Sponge Gloves	.....(drab, with fancy border, very absorbent)	6/0 " "
den lesh Gloves, or Calefacio, No. 1	.....(best soft brown)	6/0 " "
den lesh Gloves, or Calefacio, No. 2	.....(hard brown)	6/0 " "
den lesh Gloves, C quality	.....(soft brown)	5/4 " "
rage Bath Gloves	.....(soft brown, with red and white stripes)	7/0 " "
ion ath Gloves	.....(one side stout white, and the other side best soft brown)	7/0 " "
ighta Bath Gloves	.....(white honeycomb)	5/0 " "
man Bath Gloves	.....(stout grey elastic honeycomb)	6/0 " "
oma Bath Gloves	.....(fancy brown and white)	6/8 " "
ince: Washing Gloves	.....(fancy pink and white honeycomb. Retail, 6d.)	4/0 " "
ong Washing Pads	.....(various sorts)	6/0 per dozen.
th lts or Straps	.....(various sorts)	8/0 to 11/0 "

ORIGINAL MANUFACTURER:

GEORGE PATTISON, 139 St. John Street Road, LONDON, E.C.

Inventor and Sole Proprietor of the "LUNG PROTECTOR" (Registered).

Supplied by all Patent Medicine and Wholesale Houses, subject to their usual terms.

THE ORIGINAL

ARNICATED

WHITE FELT

CORN AND BUNION PLASTERS.

INVENTED AND ESTABLISHED BY

HENRY YOUNG,

A.D. 1846,

AND FAVOURABLY KNOWN ALL OVER THE GLOBE.

PRICES-

Arnicated White Felt Corn Plasters.

in, 12 box (round 6d. boxes)	...	2 1/4 per doz. boxes.
ick, 1 box (original 1s. fancy boxes)	3/4	"
in, 1 box in box	...	1/10 per gross.
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Arnicated White Felt Bunion Plasters.

Small Thin, 6 in box (round 6d. boxes)	...	2 1/4 per doz. boxes.
Thick, 6 in box (original 1s. fancy boxes)	3/8	"
Large Thin, 1/2 gross in box	...	4/6 per gross.
Thick, 1/2 gross in glass-top box	...	6/0 "

SUBJECT TO THE DISCOUNTS ALLOWED BY WHOLESALE HOUSES.

N.B.-Please see that YOUNG'S Goods are supplied, as there are many worthless imitations.

an factory, 72 Clerkenwell Road, London, E.C. (late of CARTHUSIAN STREET).

SPECIAL
QUOTATIONS.**PERFUMERY**
Of every known
kind.**T. F. BRISTOW & CO.**

Wholesale Perfumers & Fancy Soap Makers.

PRICE LISTS ON
APPLICATION.
TOILET SOAPS
Of every
description.**Concentrated (various)**
CHOICE ESSENCES

(IN BULK).

No. 30, 12/ for 20 fluid ounces,
No. 24, 9/6 " " "
No. 18, 8/ " " "
AND IN doz.
Corked Bottles .. 3/6 4/ 7/ 8/ 12/
Sprinklers 4/ 7/6 8/ 12/
Stop'd Bottles .. 9/ 12/ 14/ 18/
and upwards.

POMADES, &c.

Assorted (tall or squat) 4/ and 8/
Nursery (large) 4/ and 9/
Lime Juice & Glycerine 4/ and 8/
Glycerine and Lime
Cream 4/ and 8/
Brilliantine 8/ and 12/
(separable and unseparable.)
Brilliantine (White Rose),
Stoppered Bottles .. 8/ and 12/
Cherry Tooth Paste .. 4/ and 8/
Arecia Nut " " 4/ and 8/
Lip Salve, pots & sticks 4/ and 8/

Special Soaps in Boxes.

Cold Cream Soap, doz.
3 tablets in box 12/ and 20/
Coal Tar Soap, ditto. 8/ and 12/
Carbolic, ditto 8/ and 12/
Glycerine & Oatmeal do. 8/ and 12/
" Transparent, do. 8/ and 12/
" and Carbolic, do. 8/ and 12/
Lavender (Sweet), do. 8/ and 12/
Baby Soap, 4 tablets in box 9/
" 12 ditto 27/
Family Economic, 4 ditto 8/
" 12 ditto 24/
Thymol, 3 tabs. in box 8/ and 12/

Medicated Soaps
(IN WRAPPERS).

Carpet & Cloth Soap 3/6 and 7/ dz.
Dug Soap 3/6 and 7/ ..
Coal Tar (Family) 18/ and 27/ gr.
Carbolic " 18/ and 27/ ..
Camphrd Winter 27/ and 39/ ..
Fullers' Earth 3/6 dz.
Jewellers 4/ ..
Petroleum 4/ ..
Pumice Stone, 3/9 ..
Juniper Tar 4/ ..
Sulphur 4/ and 8/ ..
Zinc 4/ and 8/ ..

SOAPS (in Bulk).

Almond
Brown and White Windsor
Curd
Elder Flower
Glycerine
" and Almond
Honey
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Oatmeal
Marshmallow
Rose
Sunflower
Transparent Glycerine ..

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RIMMEL'S NEW SANITARY APPLIANCES.

RIMMEL'S AROMATIC OZONIZER, a fragrant powder which, simply spread on a plate in apartment or places of public resort, evolves the refreshing and healthy emanations of the Pine and Eucalyptus, and produces a quantity of *Ozone*, the great air purifier. Its clean and portable nature renders it far preferable liquid disinfectants. It is in use in the principal Hotels, Clubs, and Theatres, and also in the Saloons and Cabin of several Lines of Steamships. In 4-oz. Tins, 1s.; 1-lb. Tins, 3s. 6d.; Spreading Plate, 6d.

RIMMEL'S OZONIZED EAU DE COLOGNE, LAVENDER WATER, or FLORID WATER, sprinkled on a pad hung up in the air, destroys bad smells and noxious effluvia in sick rooms, close &c. It is recommended also to be used on the handkerchief when attending crowded places, visiting the sick, travelling by land or sea. Price, 2s. 6d. and 5s. per Bottle; Pad, 1s.

RIMMEL'S AROMATIC OZONIZED CASOLETTE, to carry in the pocket and preserve from infection; 6d.

N.B.—500 detailed prospectuses, containing certificates and testimonials, sent with name and address to every purchaser 3 dozen Aromatic Ozonizer, 1s. size.

SOLD BY ALL CHEMISTS AND DRUGGISTS. THE USUAL ALLOWANCE TO THE TRADE.

EUGENE RIMMEL, PERFUMER TO H.R.H. THE PRINCESS OF WALES, 96 STRAND, LONDON

F. A. SARG'S SON & CO.'S

CHEMICALLY PURE GLYCERINE

AND

TOILET GLYCERINE ARTICLES.

Transparent Glycerine Soap,

In registered Packets of three Tablets, and in oval Tablets in paper. Warranted to contain 33% of the purest Glycerine

Liquid Glycerine Soap,

Best preventive against chapped hands, and unrivalled for imparting softness to them, and rendering them clean and
See Testimonials of Professor J. von Liebig, Baron; and of Professor F. Wöhler.

Sarg's Double Distilled Glycerine, Chemically Pure,

In $\frac{1}{2}$ lb. and 1 lb. Bottles, should have a place in every nursery on account of its salutary action on the heads of children, relieving them from dandriff, and the roughness of the scalp they are so commonly subject to.

Sarg's New Carbolic Glycerine Soap,

In Boxes of three Tablets, is highly recommended as a most effective disinfection.

GLYCERINE, CHEMICALLY PURE

SARG'S DISTILLED CHEMICALLY PURE GLYCERINE, 29° Beaumé, in Cases of Four 56-lb. Tins each.
SARG'S DOUBLE DISTILLED GLYCERINE, Chem. pure, 30° Beaumé, in Cases of Four 56-lb. Tins each.
Twenty 5-lb. Bottles, Fifty 1-lb. Bottles, and 100 $\frac{1}{2}$ -lb. Bottles, with Registered Label.

SOLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS.

SOLE WHOLESALE AGENTS FOR THE UNITED KINGDOM AND THE COLONIES,

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SPONGES—SEASON 1882.

IN CASES, $\frac{1}{2}$ CASES, $\frac{1}{4}$ CASES.

A GUARANTEED NUMBER IN EACH.


No.	DESCRIPTION.	Pieces per Case.	Price per Case		Price per $\frac{1}{2}$ Case.		Price per $\frac{1}{4}$ Case.	
			£	s.	£	s.	£	d.
1	HONEYCOMB, SELECTED QUALITY	100	17	17	8	10	4	10
2	" FINE	100	14	9	7	5	3	13
3	" GOOD	100	11	16	5	19	3	0
4	" SECOND	100	9	4	4	13	2	7
5	" THIRD	100	6	12	3	7	1	14
6	" ROUGH, FOR STABLE USE..	100	3	10	1	16	...	...
7	" SELECTED QUALITY	26	7	10	3	16	...	...
8	" GOOD	26	4	16	2	8	...	...
9	" SELECTED	18	7	18	3	19	...	...
10	" GOOD	18	5	5	2	13	...	...
11	" FIRST	200	4	8	2	5	...	...
12	" SECOND	200	2	5	1	3	...	...
13	" TURKEY, CUPS, FIRST	40	17	16	8	19	...	...
14	" SECOND	40	13	14	6	18	...	...
15	" FIRST	100	31	12	15	16	...	...
16	" GOOD	100	23	14	11	17	...	...
17	" SECOND	100	18	10	9	6	...	...
18	" USEFUL PIECES	100	13	5	6	13	...	...
19	" FIRST QUALITY	200	13	18	7	0	...	...
20	" SECOND	200	8	15	4	8	...	...
21	" SOLID, FIRST	200	18	10	9	6	...	...
22	" SECOND	200	12	5	6	3	...	...
23	" FIRST	200	10	12	5	7	...	...
24	" SECOND	200	5	5	2	13	...	...
25	" BROWN, FINE	200	5	18	3	0	...	...

S. MAW, SON & THOMPSON request attention to their present Stock of SPONGES, in CASES, $\frac{1}{2}$ CASES, and $\frac{1}{4}$ CASES, which they recommend as more satisfactory than if bought by weight. GOOD SPONGES are very scarce, 20 per cent. dearer than last Season, and there is every probability of considerable further advance.

S. MAW, SON & THOMPSON, LONDON.

May, 1882.

TRADE MARK **P. A. STEVENS,**
CHEMIST AND SURGEON DENTIST,
70 Hyde Road, Hoxton,
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HAVERSTOCK HILL, N.W.



REGISTERED-NO. 3745.

PREPARED SILVERY WHITE GUTTA PERCHA ENAMEL,**FOR STOPPING DECAYED TEETH.****SILVERY WHITE GUTTA PERCHA ENAMEL.**

36 squares in a box, to Retail at 1d. each; Wholesale Price, 1s. per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.

On Show Card of half-gross, to Retail at 1d., at 6s. per gross.

SILVERY WHITE GUTTA PERCHA ENAMEL.

12 sticks in a glass-lid box, to Retail at 3d.; Wholesale Price, 1s. 3d. per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.

12 sticks in a glass-lid box, each stick enclosed in a Gelatine or Gilt Case;

Wholesale Price, 2s. per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.

12 boxes on a Show Card, to Retail at 6d. per box; Wholesale Price, 3s. 6d. per

card in a box.

SILVERY WHITE GUTTA PERCHA ENAMEL.

In 1 oz. Sheet, 12s. per dozen.

SILVERY WHITE GUTTA PERCHA ENAMEL.

In 4 oz. Sheet, 3s. 6d. each.

P. A. S. can supply the above to Wholesale Houses, in any quantity, with their

Name stamped upon each piece, cut in sticks any length.

The above to be obtained of all Wholesale Houses. **PRICE LIST AND****SAMPLES SENT POST FREE.****SPECIAL NOTICE.**—The words **SILVER WHITE GUTTA PERCHA****ENAMEL** are registered as a Trade Mark, and will be protected.**Dr. C. R. Coffin's AMERICAN DENTIFRICE.**Prepared only by **WILLIAM DARLING**, Chemist, Manchester.May be had from **S. Maw, Son, & Thompson**; **Barclay & Sons**;**F. Newbery & Sons**; **Sanger & Sons**; and any Wholesale

House in London. Price 2s. per Box, and Family Jars 10s. each.

OKELL'S ORIGINAL
MONA BOUQUET

Retail, 1/1, 1/9, and 3/6, Wholesale, 9/1, 15/1, and 30/1 per doz.

This much-admired Perfume (prepared by the Widow of the late Joseph Okell), may be obtained from the leading Patent Medicine Houses, Wholesale Druggists, and Druggists' Sundry Dealers.

Applications for WHOLESALE Agencies to be made to the **SOLE CONSIGNEE, THOMAS WEST, Chemist, Stretford, Manchester.**

TO DENTISTS AND CHEMISTS.—Every description of Artificial Teeth made at greatly reduced charges. Best work and best materials only.

An Upper or Lower Set, inclusive of Teeth Rubber, &c., £1 1s.

Ditto, ditto, on Platina, £2 2s.

Send for Price List.

Twenty years' experience in mechanical work.

LESSONS GIVEN IN MECHANICAL DENTISTRY.**F. Buck, 6 Hanover Place, Upper Baker Street, London, N.W.****WHITE AND SOUND TEETH.**

JEWSBURY AND BROWN'S **ORIENTAL TOOTH PASTE.**

This old-established and increasingly favourite Dentifrice has been Fifty Years before the public. It is warranted to retain its properties and keep in good condition in any climate.

The original and only genuine is manufactured solely by

JEWSBURY and BROWN,
CHEMISTS, MANCHESTER,

and is distinguishable by the Trade Mark, printed in red and green, a facsimile of which is at the bottom of the box. Particular attention should be paid to this guarantee of genuineness, as numerous imitations are in the market.

Sold universally by Chemists and Perfumers, at 1s. 6d. and 2s. 6d.

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address card, and directions for enclosure.

WOODS' ARECA NUT TOOTH PASTE.

For Removing Tartar and Whitening the Teeth, without injuring the Enamel. Sold in Pots, at 6d. and 1s. each.

WOODS'

QUININE, CANTHARIDINE, & ROSEMARY HAIR CREAM

(WITH GREASE), Restores the Hair if weak or falling off.

Price 9d., 1s. 6d. and 3s. 6d. per bottle.

WOODS'

QUININE, CANTHARIDINE, & ROSEMARY HAIR WASH

Similar to the above (without grease). Price 1s. 6d. and 3s. 6d. per bottle.

WOODS' DANDRUFF POMADE.

Never falls. 1s. per pot.

Proprietor: **W. WOODS, M.P.S., Chemist, PLYMOUTH**
SOLD WHOLESALE BY ALL LONDON HOUSES.

BEDDARD'S **BELGRAVIA TOOTH-PASTE**

(REGISTERED)

Is entirely different from any article of the kind, very much liked by customers, a most effectual dentifrice, and handsomely put up in large jars,

ONE SHILLING EACH:

WHOLESALE OF ALL PATENT HOUSES.

LIBERAL DISCOUNT TO LARGE BUYER

Prepared only by

JOHN BEDDARD,
48 CHURTON ST., BELGRAVE ROAD, LONDON, S.W.

EWENS' CLARIFIED LARD, MARROW **SUETS, AND OILS.**

JAMES EWEN & Sons are induced to give further publicity to these articles, the continued demand by all who have used them being satisfactory proof "that where purity of basis in ointments, &c., is required, they are most desirable.

By their method of purifying, the fats are not chemically altered, but simply divested of all particles tending to composition, they are consequently available for the most delicate preparations.

Adeps. Benz. B. P. and Pharm. Lard (*vide* P. J. Vol. No. 8). Direct, "for Cash only," from**JAMES EWEN & SONS' CLARIFIED FAT WORK**

5 HATFIELD STREET, STAMFORD STREET, S.E.;

Or through any of the Wholesale Houses, with their usual discount at a small advance.

CAUTION.—See that each package bears their label with name and weight.

SPONGES!



**GOLD MEDAL AWARDED,
BRUSSELS EXHIBITION, 1881,**



TO

R. CRESSWELL & CO.,

SPONGE MERCHANTS & IMPORTERS,

32 Red Lion Square, London;

AND AT PIRÆUS AND SMYRNA.

ESTABLISHED 1850.

Messrs. R. C. & Co. having secured their supplies on the Fisheries for the year 1882, previous to the general advance of 10 to 15 per cent. in prices, are enabled to maintain their last year's quotations.

**PRICES CURRENT OF SANDED AND SANDLESS SPONGES,
IN ORIGINAL CASES AS IMPORTED.**

HONEY-COMB SPONGES.

No.	Qlty.	Pieces in case about	Price case. £ s. d.
1	1	Finest selected shapes, assorted sizes	130 12 0 0
2	1	Do. do.	75 7 0 0
3	1	Do. do.	45 4 0 0
4	1	Small selected shapes	275 7 0 0
5	1	Superior do. large Bath sizes	25 7 0 0
6	2	Do. quality shapes, assorted sizes... ..	125 8 0 0
7	2	Do. do. do.	75 4 4 0
8	2	Good quality shapes, small	275 3 10 0
9	2	Do. do. large Bath sizes	25 5 0 0
10	3	Do. do. assorted sizes	145 5 5 0
11	3	Do. do. do.	90 3 10 0
12	3	Do. do. large Bath sizes	25 3 0 0
13	4	For Stable use, &c.	125 1 5 0

FINE TURKEY SPONGES.

14	1	Finest selected Cups, assorted sizes	110 18 0 0
15	1	Do. do. do.	55 10 0 0
16	1	Do. do. Bath sizes	35 12 0 0

Fine Turkey Sponges—continued.

No.	Qlty.	Pieces in case about	Price case. £ s. d.
17	2nd	Superior Cups, assorted sizes	110 12 0 0
18	2nd	Do. do.	55 7 0 0
19	2nd	Do. Bath sizes	35 9 0 0
20	3rd	Fine Cups, assorted sizes	110 9 0 0
21	3rd	Do. do.	65 5 5 0
22	3rd	Do. Bath sizes	35 7 0 0
23	1st	Turkey Solids, assorted sizes	115 7 0 0
24	2nd	Do. do.	110 5 10 0
25	1st	Flat Saddle, assorted sizes	55 9 10 0
26	1st	Do. do.	35 6 0 0
27	2nd	Do. do.	55 6 5 0
28	2nd	Do. do.	35 4 0 0

BROWN TURKEY SPONGES

29	1st	Finest selected, assorted sizes	140 4 10 0
30	1st	Do. do.	75 2 15 0
31	2nd	Superior quality, do.	140 3 3 0
32	2nd	Do. do.	75 2 0 0
33	3rd	Slate quality. do.	350 1 1 0

The above may be had Sanded or Sandless, as required.

ALL COMMUNICATIONS TO BE ADDRESSED TO LONDON OFFICES

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WHITAKER & GROSSMITH'S PURE WHITE GLYCERINE SOAP.

Richly Perfumed, and guaranteed to contain the necessary quantity of GLYCERINE for effectually imparting to the SKIN the softening and healing properties for which it is so justly famed. 1s. 6d. Boxes of Three Tablets, 12s. per Dozen Boxes.

SELECT TOILET PREPARATIONS, extensively increasing in demand, which attests their excellent quality.

TOILET SOAPS. Per doz.			BOUQUETS. Per doz.			POMADES, &c. Per doz.		
<i>Cent-Fleur (copyright)</i> 2/6 Boxes of 3 tablets 20/			<i>Cent-Fleur (copyright)</i>			<i>Cent-Fleur (copyright)</i> ... 8/		
<i>Jockey Club</i> " 1/6 " 12/			<i>Jockey Club Bouquet</i> ...	In Glass	12/	<i>Petroleum Pomade</i> ...	12/	18/
<i>Sandringham</i> " 1/6 " 12/6			<i>Ess Bouquet</i> ...	Stopped	20/	<i>Brilliantine</i> ...	8/	12/
<i>Eucalyptus Oil</i> " 1/6 " 12/			<i>Frangipanni</i> ...	or		<i>Anglo Eau de Cologne</i> ...	8/	12/
<i>Wild Thyme (Thymol)</i> 1/ " 8/			<i>Pearl of Perfumes</i> ...	Sprinkling		<i>Eucalyptus Vinegar</i> ...	12/	20/
<i>Gami-Cut Bars</i> " 1/ Bars of 6 kinds 8/6			<i>Lime Tree Blossoms</i> ...	cap	28/	<i>White Cherry Tooth Paste</i>	8/	12/
				Bottles.				

Trade Price Lists sent and Orders executed through Wholesale Houses, or direct from the Manufacturers,

WHITAKER & GROSSMITH, 22 SILK STREET (120 FINE STREET), LONDON, E.C.

JAMES'S TOILET SPECIALITIES.

JAMES'S HERBAL OINTMENT, for the Cure of Pimples, Black Specks, Blisters, &c., and taking away Tan Freckles, Scabbers, &c. Sold by all Chemists, 1/1½ and 2/9 per box.

JAMES'S DEPILATORY,

For the instant removal of Superfluous Hair. Sold by all Chemists, 1/- per box.

JAMES'S HERBAL POMADE,

For Promoting the Growth of the Hair, Whiskers, Beard, Moustachios, Eyebrows, and Eyelashes. Sold by all Chemists, 1/- and 2/- per box.

These Articles are well worthy the attention of Chemists, Wholesale Houses, and others, as they are being well advertised.

JAMES & CO., 226 Caledonian Rd., LONDON, N.

IRISH HILL MINING COMPANY

Produce from their

EMERALD FULLER'S EARTH QUARRIES

The celebrated and well-known

"EMERALD" BRAND.

It is of superior quality, and will compete

with any other. Its advantages are:—

Perfectly soluble, entire freedom

from Get and Iron, and, con-

taining nearly double the

absorptive power of

any other, it will

do double the

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FULLER'S EARTH.

Supplied in

Kiln Dried Lumps

or finely ground.

Contracts for Regular

Supply taken at low prices.

Impalpable Powder specially for

Oil and Colour Men and Domestic

uses.

SOLE AGENT:—

GEO. G. BLACKWELL,

26 CHAPEL STREET, LIVERPOOL.

Also all Minerals, Chemicals, and Colours.

GREENSILL'S FAR-FAMED MONA BOUQUET

THE ORIGINAL AND ONLY GENUINE.

The great popularity of this exquisite Perfume is a proof of its excellence and superior qualities.

T. S. GREENSILL, Chemist, Douglas, Isle of Man,
Inventor, Proprietor, and Maker.

AGENTS—LONDON: Sanger; Maw; Edwards; Newbery; Mather; Barclay; Whitaker & Grossmith; Hovenden; Parton & Osborne; Butler & Crisp; Tidman & Son; Barron & Squire; Wright, Layman & Umney; Jno. Thompson; Burgoine, Burbridge & Co.; Grimwade, Ridley & Co.; Evans Brothers, LIVERPOOL: Evans, Sons & Co.; Clay, Dod & Case; Wm. & Co.; Raines & Co. MANCHESTER: J. Woolley; Lynch & Co.; Jewsbury & Brown; Mather. EDINBURGH: Duncan & Flockart. DUBLIN: M. Mather; Hodgson. YORK: Sutcliffe & Headley; Park, Bleasdale. THIRSK: Wm. Foggitt. BRISTOL: Ferris & Co.; Goodall & Backhouse. BIRMINGHAM: Churchill & Son; P. Harris & Co.; Parton & Osborne; Southall Bros. & Barclay.

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Introduced in 1862.

Registered Trade Mark—"Tower of Douglas Bay."

A PERFECT BOON TO MOTHERS!

ROGERS' "NURSERY"

HAIR LOTION.

One application is guaranteed to destroy all Nits and Parasites Children's Heads, and immediately allay the Itching and Irritation.

It is now used in Thousands of Families with the greatest success and all who have tried it are delighted with the effect, and declare it to be worth A GUIN A BOTTLE.

PREPARED ONLY BY

WILLIAM ROGER
CHEMIST,

BEN JONSON ROAD STEPNEY, E.
Sold in large Bottles, price 2/6 SHILLING. Sample Bottle, 1d.

SOLD BY ALL CHEMISTS AND PERFUMERS.

Observe! Genuine only in Yellow Wrapper, White Label. WHOLESALE AGENTS.—Barclay & Son; Edwards & Son; Maw, & Thompson; Millard & Son; Sanger & Sons; Thompson, 121 North Road; Butler & Crisp, Cheapside; Hovenden & Sons, City Road.

LETCHFORD'S CHOICE PERFUMER

DUVAL'S MILK BALSAM for the Hair.

A Pretty Novelty for ordinary daily use. It has the appearance of a cream and is very agreeable in application, without the greasiness of lime preparations. It is not liable to separate, and is put up in attractive large Bottles at 1s., 1s. 6d., and 2s. 6d.

Also DUVAL'S COSMETIQUE.

LETCHFORD'S Transparent Cosmétique, free from grease in several patterns.

LETCHFORD'S Cream of Limes, well known; Lime Cream, and others.

LETCHFORD'S Orchid Perfumes, "THE" Ess Bouquet, Curious Essence, and all other kinds.

LETCHFORD'S Lavender Water, Florida Water, Eau de Cologne, Toilet Vinegar.

LETCHFORD'S Marking Ink, Cherry Tooth Paste, Glycerine Jelly, Plated Screw Top Bottles.

Teinture d'Or, 5/6. Kittle's Hair Restorer, 1/- and Morstatt's Medicated Soaps, &c.

LETCHFORD & CO.,

Wholesale Perfumers, 63 Wilson Street, Finsbury, E.

Robaire's Aureolin

OR

GOLDEN HAIR WASH.

The attention of the Trade is respectfully called to the above Article, now having a large sale, and giving an excellent profit to the Retailer.

5/6 size, 36/ per doz. 10/6 size, 72/ per doz.

SOLE WHOLESALE AGENTS—

R. HOVENDEN & SONS, LONDON.

S. MAW, SON & THOMPSON'S

SUPERIOR QUALITY

Bath Gloves, Rubbers, &c.

	Gloves. (Pairs.)	Straps.	Pads.
CALEACIO OR BADEN, No. 1, soft brown . . . per doz.	6/4	10/8	6/0
CALEACIO OR BADEN, No. 2, hard Brown . . . per doz.	6/4	10/8	6/0
CALEACIO OR BADEN, No. 3, soft brown striped . per doz.	6/8	11/4	6/0
CALEACIO (the U.S.), Striped, soft brown . . . per doz.	6/8	11/4	6/0
HONEYCOMB, White. per doz.	5/4	10/8	5/6

	Gloves. (Pairs.)	Straps.	Pads.
REVERSIBLE, No. 1, one side soft Brown, the other best White Turkish . . . per doz.	7/0	12/0	6/0
REVERSIBLE, No. 2, one side hard Brown, the other White Honeycomb . . . per doz.	7/0	12/0	6/0
REVERSIBLE, No. 3, one side, Egyptian Loofah, the other best White Turkish, per doz., single	8/0	—	—

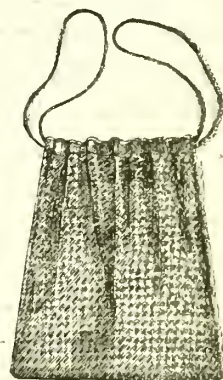
TURKISH THIN WHITE GLOVES, per doz. pairs, 4/- PADS, per doz. 4/-
 up to BEST QUALITY ... " 5/- " 5/6

S. MAW, SON & THOMPSON'S

SUPERIOR QUALITY

WATERPROOF CHECK SPONGE BAGS.

No. 1	2	3	4	5	6
6x6	8x7	9x8	10x9	11x10	12x11 inches.
6/6	9/0	10/6	12/6	14/6	16/6 per dozen.



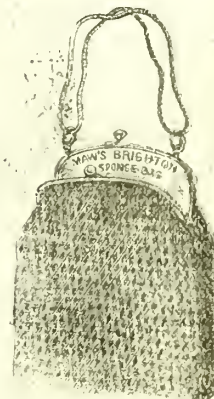
For other descriptions, see Quarterly Price Current, page 99.

S. MAW, SON & THOMPSON'S

BRIGHTON SPONGE BAGS,

WITH BALL CLASP FASTENINGS, NICKEL-PLATED.

	No.	2	3	4
		8x7	9x8	10x9 inches.
CHECK	...	16/0	18/0	20/0 per dozen.
PAISLEY	...	20/0	22/0	26/0



THE BRIGHTON SPONGE BAG.

12 ALDERSGATE ST., LONDON.

A E I THE MOST PERFECT MARKING INK,

For Writing or Stamping on Linen, Cotton, Silk, &c.

The advantages of this Ink are that it requires no heat, flows freely from the pen, does not blot or run, and cannot be removed without destroying the fabric. Sold in Bottles, 6d., 1s., 2s. 6d., 4s. 6d., 7s. 6d., and 12s. 6d. each, by all Chemists and Medicine Vendors.

WHOLESALE DEPOT—

BAINBRIDGE & POUND, 60 LEATHER LANE, LONDON.

A Liberal Discount to Large Buyers and Shippers.

SPONGE.

M. PETERSON & CO., Importers,

66 SOUTH JOHN STREET,

LIVERPOOL.

For Home, Foreign, and Colonial Markets.

Wholesale only.

PURE SPIRITS OF WINE

FOR

TINCTURES, ESSENCES, PERFUMES, &c.,

OXFORD ROAD DISTILLERY, MANCHESTER.

MESSRS. SMITH & GIBB

Beg to call the attention of CHEMISTS and DRUGGISTS to the under-mentioned Prices of Pure Spirits of Wine:—

Strength per cent.	Specific Gravity.	Price per gallon.
63 over proof ..	0·8238 ..	20/6
60 " ..	0·8298 ..	20/0
55 " ..	0·8386 ..	19/6
50 " ..	0·8482 ..	19/0

Terms—Cash on Delivery. Jars to be returned or paid for.

For Exportation, Cask included, 4/0, 60 O.P., F.O.B.

Orders from the country must be accompanied with a remittance, including the price of the Jars, which are charged as follows:—2 galls. 3/-; 3 galls. 3/6; 4 galls. 4/-; 5 galls. 5/6; 6 galls. 6/-. When the empties are returned the money will be repaid.

GIVEN AWAY

WITH
BOND'S CRYSTAL PALACE
GOLD MEDAL
MARKING INK

(Prepared by the Daughter of the late John Bond),
AN ATTRACTIVE AND NOVEL GOLD SHOWCARD,
With Inks affixed, and so constructed that it can be either suspended in the Window or used as a Counter Card. Quite a Novelty; or a
TRANSPARENT LID BOX OF NEW DESIGN.
By exposing a Card or Box in Window and on Counter, you will find the considerably increased.
WHOLESALE TRADE TERMS—Blue Wrapper Ink, 6d., 30s.; 1s., 60s. per gross. Pedestals, 6d., 36s.; 1s., 72s. per gross.



Representation of 6d. and 1s. Blue Wrapper Ink.

NO HEATING REQUIRED. ENLARGEMENT OF BOTTLE

Caution to Wholesale and Retail Vendors.—Costs Damages awarded in actions tried December, 1875, and November, 1876, for selling and manufacturing Colourable Imitations. To secure genuine article please order of your Wholesale House, "BOND'S (Daughter of the late John) CRYSTAL PALACE MARKING INK."

Works: 75 Southgate Road, London.

CAUTION.—In consequence of daily complaints of other inks being substituted, kindly write full particulars to the Proprietor.

BURROUGH'S

SPIRITUS RECTIFICATUS, P.B.

SPIRITS OF WINE CHEMICALLY PURE.

The Best English Grain Spirit, Free from Fusel Oil.

56 over proof, 20s. per gallon; 60 over proof, 20s. 6d. per gallon; less 6d. per gallon for five gallons. Lower quotations for quantities. Cash on delivery or with order. Country Orders must contain remittance or reference to London House.

CALE STREET DISTILLERY, LONDON, S.W.

Also Duty Free for Exportation. Best Methylated Spirits at Lowest Prices.

PHOENIX

ESTABLISHED A.D. 1815

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THE LEADING & STANDARD ARTICLE

PREPARED ONLY BY THE WIDOW OF THE LATE JOHN MURPHY

CHEMIST AT THE ORIGINAL ESTABLISHMENT

11, NILE STREET, EAST ROAD, HOXTON N.

MARKING INK

NO OTHER ADDRESS — BEWARE OF WORTHLESS IMITATIONS.

INDEX TO ADVERTISEMENTS,

(See pages 21, 22.)

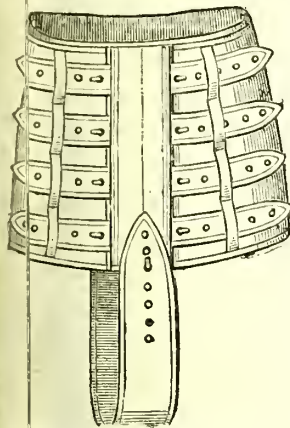
TRADE MARK.



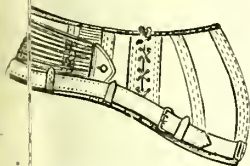
G. F. SNOOK & SON,

WHOLESALE AND EXPORT MANUFACTURERS.

TRADE MARK.



OBSTETRIC BINDER.



LADIES' BELTS.



ROUND-SHOULDER BRACES.



LADIES' BRACES.

WE BEG TO DRAW THE ATTENTION OF CASH BUYERS TO THE FOLLOWING LIST OF GOODS OF OUR OWN MANUFACTURE & SUPERIOR FINISH.

Obstetric Binders.

Ladies' and Gents' Belts of all kinds.

Suspensory Bandages of all kinds.

Elastic Gum Catheters, Bougies, &c.

Magnetic Appliances for all parts of the body.

Toilet and Bath Gloves, in great variety and New Patterns.

Bath Sponge Pads, Belts, &c.

Ladies' and Gents' Braces for Round Shoulders.

Waterproof Sponge Bags, Bathing Caps, Nursing Aprons, &c., &c.

The Genuine Brown Arnicated Felt Corn and Bunion Plasters.

The Genuine White Arnicated Felt Corn and Bunion Plasters.

Court Plaster, in Leather, Fancy Wood, Plaid and Fancy Paper Cases, Envelopes, &c.

Gold Beater's Skin, in Handsome Cases, Wrappers, Envelopes, &c.

Hydropathic Water Compressors for all parts of the body.
Felt Chest & Lung Protectors, of finest Wool and superior finish.

Chamois and Flannel Chest and Lung Protectors.

Respirators of all kinds and of superior manufacture.

Elastic Stockings, &c. Vaccination Shields.

Higginson's Enemas, Perfection Enemas, &c.

India Rubber Urinals, Breast Glasses for self-use.

Glass Syringes. Nipple Shields. Puffs and Boxes.

Gutta Percha Tooth Stopping in all styles, of superior quality.

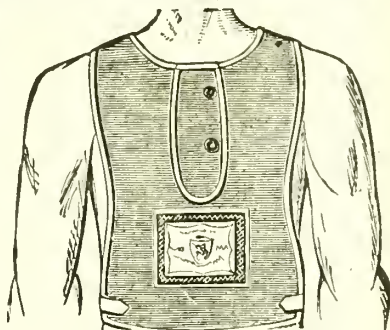
Gutta Percha Tissue.

Superior Extra Perfumed Violet Powder, in Packets, Boxes and Tins of all sizes.

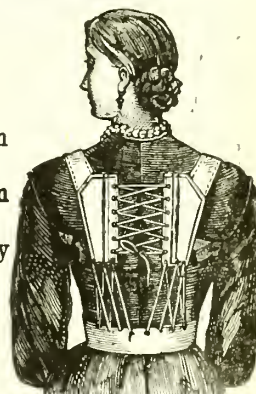
Superior Prepared Fuller's Earth, packed in Round Boxes or Tins.

Insect Powder, from 1d. to 1s. size.

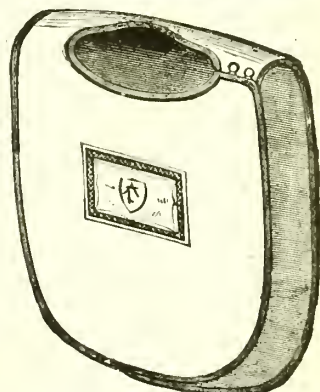
6d. and 1s. Feeding Bottles.



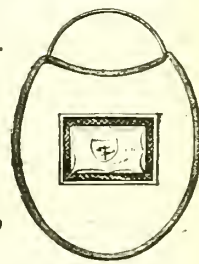
IMPERIAL VEST.



THE UNIQUE ROUND-SHOULDER BRACES.



CHEST AND LUNG PROTECTOR.



CHEST PROTECTORS.

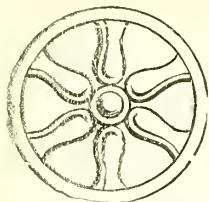
SPECIAL QUOTATIONS FOR LARGE QUANTITIES.

Price List on receipt of Business Card.

Buyers of Large Parcels may have their own Name on all our Goods.

Agents for Spungio and Impermeable Piline and Oil Silk,
Degraeve's Corn and Wart Pencils, &c.

376 & 378 CITY ROAD, LONDON, E.C.



PAUL METZ,

10 JEWIN STREET, ALDERSGATE STREET, LONDON, E.C.

MANUFACTURER OF BEST QUALITY

"WHEEL BRAND" WHITE WILLOW BOXE

Agent for the best Continental Manufacturers of
Chemical Glass and Porcelain Apparatus, Thermometers, &c., Camel-hair Pencils, Sash Tools, &c.,

AND SOLE AGENT FOR THE TAMARIND LOZENGES, KANOLDT.

Delicious Medicated Conserve, for the Relief and Cure of Constipation, which will not gripe, and are also others superior to any other similar preparation in the market.

HYDROGEN PEROXIDE.

For Bleaching Hair, Feathers, Wax, Ivory, &c., &c.

12 VOLUMES.

Price 2/6 per Pound; 11/6 per Winchester Quart; or 20/ per Gallon.

BOTTLES EXTRA. NET CASH WITH ORDER.

J. BRODIE, Manufacturer,

41 MUSEUM STREET, LONDON, W.C.

GOLDEN HAIR WASH

Produces, by two or three applications, the beautiful Golden Colour so much admired.

WARRANTED PERFECTLY HARMLESS.

1/0 size,	6/0 per dozen.
2/6 "	15/0 "
3/6 "	21/0 "
5/0 "	30/0 "

Put up in an attractive and saleable form.

J. BRODIE, Manufacturer,

41 MUSEUM STREET, LONDON, W.C.

WHITE FELT CORN AND BUNION PLASTERS

SOLPORT BROTHERS, 68 Shaftesbury St., New North Road, LONDON.

ESTABLISHED 27 YEARS.

SOLPORT BROTHERS are the ORIGINAL MANUFACTURERS of the only genuine White Felt Corn and Bunion Plasters.

PRICE LISTS ON APPLICATION.

ANTAKOS,

THE MARVELLOUS CORN CURE.

NOTICE TO THE TRADE.

This Article is now being extensively advertised. All Orders and Communications to be addressed to

THE ANTAKOS COMPY.,

83 FINSBURY PAVEMENT. E.C.

BRECKNELL'S SKIN SOAP

THE MOST SALUBRIOUS SOAP IN USE

BRECKNELL'S SADDLE SOAP

Used in the Royal Stables, by the Army, and in Hunting Establishments.

THE BEST ARTICLE IN USE FOR THE PURPOSE

BRECKNELL TURNER & SONS,

HAYMARKET, LONDON, ENGLAND.

FOULKES' CEMENT.

AS USED AT ALL THE GOVERNMENT MUSEUMS.

Suited for any substance, from glass and china to leather, wood, or iron, and the articles joined bear washing in boiling water.

The large range of materials to which this cement is applicable, its transparency, strength, and facility in use, and the readiness with which it renders it, without doubt, THE MOST USEFUL EVER INVENTED. It is equally applicable to articles of the coarsest or the most delicate character.

The great success which attended its introduction, now more than 20 years ago, has given rise to a host of imitations, under as many various names of these being of an exceedingly crude character, and most unsatisfactory to both vendor and buyer. The above celebrated Cement is carefully prepared and neatly put up, and is guaranteed to remain unchanged in any climate.

Professor ARCHER, Edinburgh,—"I can testify most unhesitatingly to its great utility in the various occasions which continually arise in the work of a first-rate Cement. I have invariably found yours superior to all others, and have extensively recommended its use to all my friends."

Sold in bottles at 6d. and 1s. (equal to three of the smaller).

FOULKES' TOILET & NURSERY POWDER

IMPALPABLE AND DELICATELY PERFUMED.

This unique Powder possesses the emollient properties of fullers' earth, free from colour, and in a high condition of purity. Dr. ALEX. MILNE, Edinburgh, in his recent book entitled: "The Child, and how to Nurse it," says of this favourite powder, "WE RECOMMEND IT IN PREFERENCE TO ALL OTHERS."

Sold in Boxes at 6d. and 1s. Wholesale at the Patent Medicine Houses and Druggists' Sundriesmen, or from

W. J. FOULKES, OPERATIVE CHEMIST, BIRKENHEAD.



SAVAR'S

PROPRIETARY SPECIALITIES



HOUSEHOLD REQUISITES.—MEDICAL REQUISITES.—TOILET REQUISITES.

TOILET REQUISITES.

- SAVAR'S BEARS' GREASE.**—For the Hair. 6d. and 1s. pots.
- SAVAR'S BRILLIANTINE** —Delicately perfumed; for imparting lustre and softness to the Hair, Whiskers, and Moustaches, and making Children's Hair luxuriant. 1s. and 2s. 6d. bottles.
- SAVAR'S CAMPHOR CASKETS** (Original).—In handsome Perforated Metal Boxes, 1d. each; in Boxwood Caskets, 6d. each, and in Rosewood Caskets, larger, 9d. each. Useful to carry in the pocket for the relief of Influenza, and as a preventative against infection, also to put in Drawers, &c., amongst Clothing of every description, and to keep away Moths and other Insects.
- SAVAR'S COAL TAR SOAP.**—An elegant and agreeable Toilet Disinfectant. In 4d. and 6d. tablets.
- SAVAR'S COLD CREAM.**—Exquisitely Perfumed with Otto of Roses; for softening and beautifying the Skin, and preventing it from Chapping. 6d. and 1s. pots.
- SAVAR'S COSMETIQUES.**—For the Hair; nicely Perfumed. White, Black, and Brown. 6d. boxes.
- SAVAR'S COURT PLASTER.**—Superior, which does not wash off, on Black, Flesh Colour, Pink and White Silk. 1d., 2d., 3d., 6d., and 1s. cases.
- SAVAR'S EAU DE COLOGNE.**—Of refreshing fragrance; more powerful and cheaper than German. 1s. and 2s. bottles.
- SAVAR'S EXTRACT OF LIMES AND GLYCERINE** (Purified).—For Cleaning the Hair and giving it a beautiful gloss. The well-known cooling and cleansing properties of Limes, combined with the hygienic effects of Glycerine on the Skin, render this preparation as agreeable as it is beneficial. In 6d. and 1s. Bottles.
- SAVAR'S FLESH GLOVES** (Various).—The frequent use of these Gloves induces a healthy circulation of the blood and a proper action of the pores of the Skin. They may be used either wet or dry, and in either hot or cold water, thus rendering them a great acquisition to the Bath and Toilet. 1s. per pair.
- SAVAR'S FOSSILINE POMADE.**—Exquisitely Perfumed with the delicate odours of the Montserrat Lime Tree Blossom. This Pomade does not go rancid, and its use promotes the Growth of the Hair, keeping it sweet and clean, and the Scalp free from Scurf and Dandruff. 6d. and 1s. bottles.
- SAVAR'S FOSSILINE TOILET SOAP.**—Highly Emollient, Perfumed as the Pomade. 6d. tablets, 1s. 6d. and 5s. Boxes.
- SAVAR'S FLORAL POMADES.**—Exquisitely Perfumed from the following Odours:—Hawthorn Bloom, Lavender, Orange Blossom, Patchouli, Rose, and Rosemary. 6d. and 1s. Bottles.
- SAVAR'S GLYCERINE JELLY** (Otto Rose).—For Chapped Hands, Sunburns, and all Irritations of the Skin. 6d. and 1s. jars.
- SAVAR'S JEWELLERY REQUISITES.**—For Cleaning Silver, Jewellery, &c.; an elegant adjunct to every Lady's Jewel Box. 1s. each.
- SAVAR'S LAVENDER WATER.**—Of superior quality and fragrance. 6d. and 1s. bottles.
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- SAVAR'S POMADES.**—CANTHARIDINE CREAM stimulates and promotes the Growth of the Hair. CASTOR OIL POMADE for Dressing and Softening the Hair. CRYSTALLISED CREAM for Beautifying and Preserving the Hair. MARROW OIL POMADE promotes the Growth and Luxuriance of the Hair. 6d. and 1s. bottles.
- SAVAR'S TOILET COMPANIONS.**—Consisting of an assortment of these Specialities arranged in a neatly-partitioned Box. It forms a convenient and agreeable addition to the Toilet Table, and is peculiarly adapted for a birthday present, or complimentary gift, or Christmas present. 10s. 6d. each.
- SAVAR'S VIOLET POWDER.**—Deliciously Perfumed Starch Powder only, quite harmless. In $\frac{1}{4}$ -lb. and $\frac{1}{2}$ -lb. Packets, 1s. 6d. per lb., or fancy 6d. boxes.

A Complete Price Current of Druggists' Sundries, Proprietary Articles, Patent Medicines, &c., supplied on application.

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MANCHESTER OFFICE AND SHOWROOM—1 & 2 Exchange Buildings, Cromford Court, Market Street.

SUDEN EVANS & CO., Montreal, Canada, & Rouse's Point, New York. EVANS, LESCHER & WEBB, London.

NOTICE !!!

THE MOST PROFITABLE BRAND.

THE FIRM OF MARIA CLEMENTINE MARTIN,

NUN

Of COLOGNE, having been awarded the SPECIAL FIRST PRIZE MEDAL
for their celebrated

EAU DE COLOGNE

AT THE
SYDNEY EXHIBITION, 1879,

Have now the pleasure to announce to the Public that they have also obtained
the FIRST PRIZE MEDAL at the

MELBOURNE EXHIBITION, 1880.

They trust that the above distinctions conferred upon them by such expert judges will be sufficient
guarantee that the Eau de Cologne of their manufacture is, **without doubt, the best.** They
to append a List of Prize Medals obtained at other Exhibitions:—

LONDON, 1851 and 1852.

NEW YORK, 1853.

LONDON, 1862.

RHENISH PROVINCES, 1855.

PARIS, 1855.

VIENNA, 1873.

The above firm only export to England their DOUBLE Eau de Cologne, and request their customers
comparing the prices of the different Brands, to take into consideration that the bulk of those sold
the white label are Single (or only half strength of the Double), which enables the Makers to sell at
low price with great profit. If they will trouble to compare the subjoined prices with those of any
manufacturing Eau de Cologne **DOUBLE**, the comparison will be greatly in favour
of our Brand.

PRICE LIST.

							Duty Paid, Net.		In Bond.
No. 1, $\frac{1}{2}$ Shorts	...	...	...	...	...	...	8/-	...	5/-
No. 2, Shorts	...	...	...	...	...	...	15/-	...	10/-
No. 3, „ finely Wickered	...	...	...	...	...	...	20/-	...	15/-
No. 4, Long Green Flasks	...	...	...	...	...	...	15/-	...	10/-
No. 5, Wickered Bottles (Small)	...	...	...	...	...	...	25/-	...	17/3
No. 6, „ „ (Medium)	...	...	...	...	...	...	50/-	...	34/6
No. 7, „ „ (Large)	...	...	...	...	...	...	100/-	...	69/-

Small Cases assorted to order (of not less than £3 value in bond) delivered free freight, less $7\frac{1}{2}$ per cent. discount

SOLE AGENT FOR GREAT BRITAIN AND IRELAND:

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LUNDBORG'S PERFUMES.

WARNING.—Each of the following Names are secured by Trade Mark. Any one using, imitating, or in any way infringing upon either of them, will be prosecuted to the fullest extent of the law.

TALLY-HO

EDENIA

FASCINATION

MAREGHAL NIEL ROSE

We are pleased to acknowledge the very favorable reception accorded to these high class Perfumes by the Trade, and also the flattering encomiums already pronounced upon them, by those best qualified to judge critically of their merits.

For the Proprietors.

BURROUGHS, WELLCOME & Co.,

Sole European Agents, 7, Snow Hill, London, E.C.

THE ONLY GENUINE EAU DE COLOGNE.

In accordance with a Decision of the "Tribunal Civil de la Seine" of the 25th March, 1865, and the Paris Court of Appeal of the 26th April, 1866 (against the Sieur Jean Maria Farina, Julichsplatz No. 4, "maison fondée en 1855"); as also of the "Tribunal de la Seine" of the 4th May, 1877, and the Paris Court of Appeal of the 28th June, 1878 (see the "Gazette de Tribunaux" of the 7th May, 1866, and the 19th July, 1878), the truth is reached by innumerable arguments, viz.: That *Johann Paul Feminis*, in 1695, invented Eau de Cologne, and left the secret of the manufacture only and alone to his nephew, *Johann Anton Farina*, "zur Stadt Mailand" ("à la ville de Milan"), Hochstrasse No. 129, Cologne.

TRADE MARK.

Paul Feminis



Hereby it is therefore established, that neither Johann Maria Farina, "Julichsplatz No. 4," nor Johann Maria Farina, "gegenüber dem Julichsplatz" (according to his own avowal, founded in 1709—therefore fourteen years later than 1695) is the oldest distiller of Eau de Cologne, but that this title lawfully belongs to the undersigned firm, which, through a Decision of

the Royal Rhenish Court of Appeal in Cologne, of the 1st February, 1879, is alone authorised to and use as Trade Mark the likeness of Feminis, taken from an original portrait in their possession.

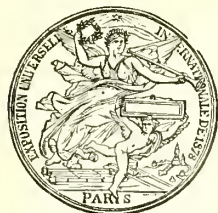
JOHANN ANTON FARINA,

At the Sign of the City of Milan, the oldest Distiller of the ONLY GENUINE EAU DE COLOGNE,

No. 129 HIGH STREET, COLOGNE,

Old Purveyor to the Royal Court of Prussia by appointment of September 27th, 1817, and August 27th, 1877, &c.

SILVER MEDAL,



PARIS, 1878.

THE

Tin-Plate Decorating Co.,

MANUFACTURERS OF THE NEW

CRYSTALLIZED TIN BOXES,

FOR TOILET AND OTHER PURPOSES.

GOLD MEDAL,



SYDNEY, 1879.

SEAMLESS DECORATED TIN BOXES

Suitable for Blacking, Polishing Paste, Tooth Powder, Pomade, Pills, Lozenges, &c.

DECORATED TIN CANISTERS,

For Disinfectant Powder, Baking Powder, &c., &c., &c.

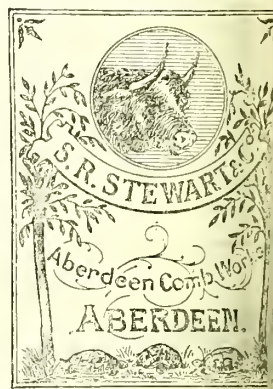
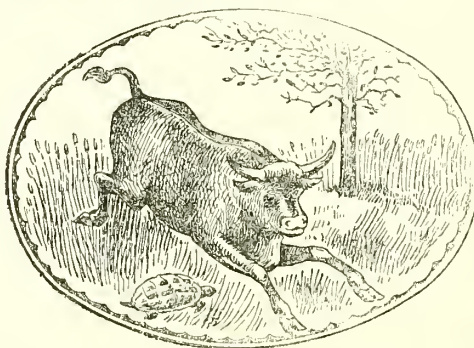
WORKS: NEATH, SOUTH WALES.

S. R. STEWART & CO., ABERDEEN COMB WORKS, ABERDEEN

REGISTERED TRADE MARK.

REGISTERED TRADE MARK.

REGISTERED TRADE MARK.



SPECIALITIES—Rhinoceros Horn Cups, clear as Glass and unbreakable. Pocket Combs, with Mirrors. Pair Cutters and Folders. Druggists' Spatulas, Scoops, and Spoons. Combs to imitate and superior in finish to Ivo Rhinoceros Horn Combs, unsurpassed for elegance and toughness. Fruit Knives.

AWARDS AT INTERNATIONAL EXHIBITIONS.—London, 1862.—The only Medal for Real and Imitation Tortoiseshell Ladies' H Combs. Vienna, 1873.—The only Medal for Combs of every description. Paris, 1878.—The only Medal for Pure White, Stained, Buff and Rhinoceros Dressing Combs. Sydney, 1880.—The First Prize for Combs of all kinds.

THE ABOVE TRADE MARKS ARE ALL OUR PROPERTY, AND DULY REGISTERED.

SANDS' STANDARD DYES

Are the First and the Best; the Finest Dye and largest Package. 1*l.* Packets, on Cards, at 7/ gross; and 3*d.* and 6*d.*, in very neat Counter Cases, with sloping Glass Lid, containing $\frac{1}{2}$ gross 3*d.* and $\frac{1}{4}$ gross 6*d.*, assorted colours—the 3*d.* at 21/ per gross, and 6*d.* at 42/ per gross. No charge for Case

SANDS' GOLD PAINT.

Retails at 1/ complete, containing, in box, Gold Powder, Mixing Liquid, Brush, and Palette. 8/ per doz. Finds a ready sale everywhere, being applicable to so many purposes which suggest themselves.

EDISON'S STARCH ENAMEL.

1*l.*, 3*d.*, and 6*d.* Packets.

PRICE LISTS OF OTHER GOODS SENT FREE ON APPLICATION ENCLOSING TRADE CARD. All Goods bear a handsome profit, and any unsaleable exchanged.

SANDS MANUFACTURING COMPANY,

121 GOSWELL ROAD, LONDON, E.C.

A PAINLESS AND UNFAILING REMEDY FOR THE REMOVAL OF CORN AND WARTS.



REGISTERED.

Contains no Arsenic or any Injurious Ingredient.

DIRECTIONS FOR USE.

Apply a thick coating of the Paint, allow it to get thoroughly set (taking generally 15 or 20 minutes), and allow it to remain for six or seven days; then detach the destroyed Corn (or Wart) with the nail or a dull knife. May be applied with a camel-hair pencil, the cork, or the point of a small penknife.

In future this Popular Remedy will be offered as a stamped proprietary article, to retail at 7½d. each. Although this preparation has only been before the public for a comparatively short time, and sold unstamped to stand or fall purely on its own merits, the demand for it has been steadily on the increase: this increase is due to those who have tried it recommending it to their friends. We continue to receive letters bearing testimony to its wonderful efficacy.

It put up in cases containing a Bottle of Paint, Adhesive Plaster, and Camel-hair Pencil, fixed, in dozens, on neatly-bronzed show-cards. Sample free by post, 7½d.

PREPARED ONLY BY THE INVENTORS,

J HARGREAVES & SON, CHEMISTS,

108 FYLDE ROAD, PRESTON.

LONDON DEPOT: 1 & 2 AUSTRALIAN AVENUE, E.C. LIVERPOOL DEPOT: 149 DUKE STREET.

Sold by all Patent Medicine Warehouses and Druggists' Sundriesmen.

AGENTS WANTED IN THE COLONIES.

Patronised by their late Royal Highnesses the Duchess of Kent and the Duchess of Gloucester.

CORLEY'S GREEN GUM PLAISTERS, FOR CORNS AND BUNIONS.

Sold by all Chemists in boxes 1/1½ and 2/9 each, duty included; the 2/9 box is equal to three small ones.

In presenting this Corn Plaster to the notice of the Public as a speedy and radical cure for Corns of every kind, T. C. will only state, in its favour, that during the first Seven Months of preparing it, by his own recommendation and of those who used it, without a single advertisement, upwards of Three Thousand boxes were sold—a fact, he thinks, fully justifying him in giving it further publicity. But he has other reasons also; many gentlemen have expressed themselves more speedily relieved and more lastingly benefited by this Plaster than they have hitherto used, having declared their Corns to have been completely cured in the short space of ten or fourteen days. Mr. T. CORLEY, Chiropractist to her late Royal Highness the Duchess of Kent, having prepared and sold this Plaster for over fifty years, begs to assure those ladies and gentlemen who may feel a delicacy in trying it that in its nature it is perfectly harmless, and in its effects generally certain. MAY BE WORN WITH THE TIGHTEST BOOT.

Sole Proprietors, JAMES CORLEY & CO., 38 Alexandra Rd., Addiscombe Rd., Croydon.

Will be sent by post for 14 or 33 stamps.

VIDE.

LEGE.

CREDE.

The few following honest testimonials would convince the most sceptical. They are selected from an immense number accumulating year by year, simply as furnishing some proof that these Plaisters were as efficacious in the year 1875 as they were thirty years previously, and that they are not impaired by climatic changes, being alike beneficial in tropical, semi-tropical, and more temperate countries.

From BRITZ & JAMES, Coburg House, Kensington, 25th, 1881.—Sir.—Be good enough to send by bearer a dozen boxes of your Green Gum Plaisters for the use of Her Royal Highness the Duchess of Kent, at St. James's Palace. Her Royal Highness has heard of their efficacy.—To Mr. Corley.

BAREILLY, NEAR CALCUTTA, May 25, 1845.—Sir.—I feel it my duty to acquaint you of the astonishing cures of old and troublesome corns performed by your Green Gum Plaisters. No one who has not lived in a tropical region can imagine the excruciating agony, on one of our hot days, caused by a simple corn; and when I tell you that I have never known your Plaisters to fail in giving almost immediate relief and speedy cure, you can easily imagine with what welcome they have been received here. My comrades, knowing the great cure effected in my case, eagerly sought after the last six boxes I received from you. Please forward by return packet six more boxes, and accept my heartfelt thanks.—Remain your humble servant, JOSEPH UPTON, Sergeant-Major, 33rd Native Infantry.

Portland, Maine, United States of America, September 5, 1881.—Sir.—Having found your Green Gum Plaisters of great efficacy, I would thank you to send me four boxes.—Your humble servant, J. NICHOLS.—To Mr. Corley.—N.B. Please direct to Rev. Dr. Nichols, Portland, Maine.



ENTD. STA. HALL.

Boston, U.S.A. March 11th, 1881.—Dear Sir.—Will you send me by the steamer from Liverpool ten shillings' worth of your Green Gum Plaisters for Corns and Bunions, as I have found them of immense benefit, and would on no account be without them. If you have an Agent in the United States I will thank you to give me his name, as so many of my friends are anxious to obtain the Plaisters, knowing how they have cured me.—Yours truly, JOHN TAPPEN.

LATER TESTIMONIAL.

From T. S. TALBOT, Esq., Foxley Lodge, Romford Road, E., May 3, 1875.—Dear Sir.—Having suffered many years from old and troublesome corns which at times caused me excruciating agony, and finding no permanent relief from the various remedies tried, I certainly became somewhat sceptical. I was, however, induced to try your Green Gum Plaisters; and I feel it only justice to inform you that I received almost immediate relief, and one box has completely cured two virulent corns. Your splendid remedy deserves wide publicity and the greatest success.—Believe me sincerely yours, T. S. TALBOT.

Immediate Relief, speedy and permanent Cure, if the simple directions are followed.

AND CORLEY'S SOOTHING OINTMENT, for Chilblains, Chaps, Ulcerated Sores, &c.,

Giving immediate relief without the slightest pain.

TESTIMONIALS FROM ALL PARTS.

THE YEAR OF JUBILEE, 1876.

MILLARD, SON & APPLETON'S

MUCH ADMIRER

SKIN SOAP

FOR KEEPING THE SKIN CLEAR & SOFT
GUARANTEED PURE — MANUFACTURED ONLY BY
MILLARD, SON & APPLETON, 40 CHARTERHOUSE SQUARE, LONDON, E.C.

In Packets, containing 4 Tablets, retail 1s. per Packet.

MILLARD'S Areca Nut Tooth Paste.

In Pots, 6d. and 1s. each, retail.

MILLARD'S Benzine.

In Bottles, 6d. and 1s. each, retail.

MILLARD'S Cherry Tooth Paste.

In Pots, 6d. and 1s. each, retail.

MILLARD'S Dog Soap.

In Tablets, 6d. each, retail.

MILLARD'S Invisible Face Powder

In Packets, 6d., and elegant Boxes with Puff, 1s. and each, retail.

MILLARD'S Invisible Wool for the Ear

In Packets, 3d. and 6d. each, retail.

MILLARD'S "Nigroline" Marking Ink

In Bottles, 6d. and 1s. each; also $\frac{1}{2}$ oz., 2s. 6d., and 1 Bottles, 4s. 6d. retail. For use of Hotel Proprietors, Public Institutions, &c.

N.B.—The above command a ready sale wherever introduced.

Special Quotations to Shippers

Catalogue of Patent Medicines and Druggists' Sundries forwarded on application accompanied with Trade Card.

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ESTABLISHED 1849.

CURRY, LLOYD & CO.

(Late ALLEN PEARCE & CO.,)

DRUGGISTS' SUNDRYMEN,

TRUSS AND SURGICAL APPLIANCE MAKERS,

10 and 11 BATH STREET, BRISTOL.

NEW PRICE LIST (1882) WILL BE SENT ON RECEIPT OF BUSINESS CARD.



Highest Award, Philadelphia, 1876. Gold Medal, Berlin, 1877. Highest Award and only Paris Exhibition, 1878. Highest Award, Melbourne, 1881. Highest Award and only Frankfort, 1881.



BROWN'S SATIN POLISH

Put on by Sponge attached to Wire and Cork in each Bottle. No Polishing Brush required. Dries in a few minutes. Can be used by any lady without soiling her fingers.

The "Satin Polish" is the most Elegant Article of the kind ever produced. LADIES' SHOES, which have become Red and Rough by wearing, are restored to their ORIGINAL COLOUR and LUSTRE, and will not soil the skirts when wet. TARNISHED PATENT LEATHER is improved by it.

For Travelling Bags, Trunks, Harness, Carriage Tops, &c., it is unequalled. It will not den the Leather nor crack. It is not a spirit varnish. In Cartons, 4s. 6d. per dozen; 52s. per gross. Pack 1 in

Sawdust, 3s. 9d. per doz.; 43s. per gross. 2 1/2 %.

AMERICAN MAGIC BRONZE

Is the best in the Market, and it can be used with good effect on Ornaments, Picture Frame and Fancy Work generally, as well as for Boots and Shoes. In Cartons, 7s. per dozen. SOLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS' SUNDRIES EX.

Factories: BOSTON; MONTREAL; 18 & 20 Norman's Buildings, ST. LUKE'S, LONDON.

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A. S. LLOYD'S EUXESIS.

The attention of the Trade is called to the following distinctive marks on the genuine A. S. LLOYD'S EUXESIS;—

Firstly—My full name, AIMEE LLOYD, on cap of tube.

Secondly—The words "Prepared by his Widow" in raised letters on top of tube, and in RED INK across labels.

Thirdly—My Address, "No. 3 Spur Street, Leicester Square," London, on both English and French labels.

(Signed) AIMEE LLOYD
(Widow of A. S. Lloyd),

Sole Proprietor and Manufacturer of the GENUINE Lloyd's Euxesis.

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MOUNSEY'S ORIGINAL PRESTON SMELLING SALTS.

PREPARED ONLY BY HIS SUCCESSOR,

WILLIAM WILLAN,
CHEMIST,

AT THE OLD ESTABLISHMENT,

3 FRIARGATE, PRESTON.

Liberal Terms to Shippers and Large Buyers. Usual Trade Discount.

The Trade should see that the name of "Mounsey" is on the bottles, and "W. Willan, late Mounsey, Chemist, Preston," on the seal which is upon every cork.

TRADE

FOSSILINE

A bland, odourless, perfectly pure Hydro-Carbon Jelly, of greater smoothness, firmer consistency, and better appearance than any other Petroleum Jelly.

SAMPLES POSTAGE FREE ON APPLICATION.

PRICES—In 7-lb., 14-lb., and 28-lb. Tins, 8d. per lb.; in 56-lb. and 112-lb. Drums, 7d. per lb. Tins and Drums free.

We also Manufacture a **VETERINARY FOSSILINE**, which, at the low price we offer it, can be used for Smearing Purposes; also for Veterinary Ointments, &c.

PRICES—In ½-cwt. and 1-cwt. Drums, 56/- per cwt. Drums free. Subject to usual Discount.

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56 Hanover Street, Liverpool.

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H. SUGDEN EVANS & CO., Montreal, Canada, and Rouse's Point, NEW YORK.

MELBOURNE EXHIBITION, 1881, SILVER MEDAL.



1862.
O the Jury.



1873.



1876.



Silver Medal.



Highest Award for Sponges.



1st Special Award for Brush.

G. B. KENT & SONS, LONDON.

WAREHOUSES—

11 Great Marlborough Street, W.

BRUSHES

KENT'S HAIR BRUSHES

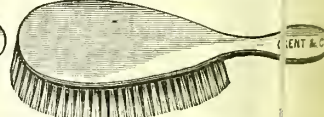
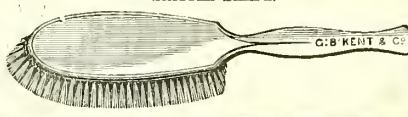
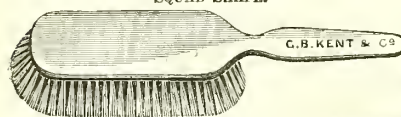
FACTORIES—

Bonner Road, Victoria Park, E.

BALLOON SHAPE

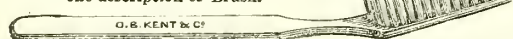
SQUAB SHAPE.

SKITTLE SHAPE.




KENT'S TOOTH BRUSHES

Are manufactured at their Factory at Victoria Park, expressly set apart for this one description of Brush.





G.B. KENT & CO


Price per doz.

First Quality **G.B. Kent & Co**  **London** 6/6

Second Quality **Imperial**  **Quality** 5/0

Third Quality **WARRANTED**  **LONDON** 4/0

Fourth Quality **WARRANTED**  **SECURE** 3/6

Fifth Quality **WARRANTED**  **SOUND** 3/0

Badger Hair Tooth Brushes .. 4/6 6/0 8/0 11/0 per doz.

Children's .. 3/0 3/6 4/0 "

Tooth Brush Guards .. Metal, 3/3 Porcelain, 4/6 "

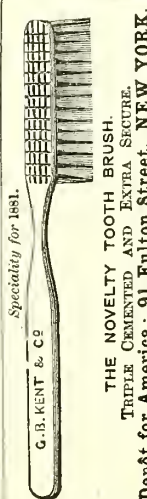
Japanned Wet Brush Holders .. 3/0 5/6 6/0 13/0 "

KENT'S CLOTH BRUSHES in WOOD or IVORY.

KENT'S HAT BRUSHES in WOOD or IVORY.

KENT'S FLESH BRUSHES, Handled or Webbed.

KENT'S SHAVING BRUSHES in Badger Hair, &c., &c.



Speciality for 1881.

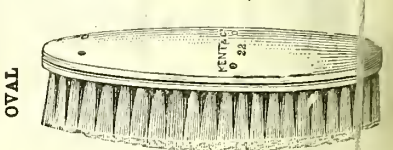
G.B. KENT & CO

THE NOVELTY TOOTH BRUSH
TRIPLE CEMENTED AND EXTRA SECURE
Depot for America: 91 Fulton Street, NEW YORK.

KENT'S NAIL BRUSHES.



Bent Back	..	..	4/0	7/0	8/6	10/0	12/0	14/0
Round End	..	..	4/0	7/0	8/6	11/0	13/0	16/0
Roached Grooved	..	..	19/0	24/0	28/0	32/0	36/0	40/0



No.	22/0	23	23	24
	8/6	13/0	17/6	22/0
Handled Nail Brushes	..	4/0	4/6	7/0
Wood	..	12/0	16/0	18/0
Fibre	..	21/0	27/0	30/0

KENT'S FITTED LEATHER CASES of various descriptions.
KENT'S HAND MIRRORS in Wood and Ivory.
KENT'S COMBS in Ivory, Shell, Indiarubber, &c.
KENT'S "NOVELTY" TOOTH BRUSH GUARD
(Telescope pattern, silver-plated.)

G. B. KENT & SONS' Illustrated Price List will be forwarded by post on application.

ESTABLISHED 1843.

THOMPSON & CAPPER,

WHOLESALE AND EXPORT

HOMŒOPATHIC CHEMISTS,

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AND

51 Piccadilly, Manchester,

ILLUSTRATED PRICE LIST ON APPLICATION.

THOMPSON & CAPPER have now for many years, with the greatest benefit to their Agents throughout the world, supplied, free of cost, Books for Gratuitous Distribution compiled by themselves, containing complete directions for using the Homœopathic Medicines, a plentiful distribution of which invariably ensures a large sale. Hands also, with name, *ad lib.*

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DENTIFRICE WATER.

Sells well everywhere, its beneficent qualities being attested by physicians in all parts of the world. (See Testimonials.)

In 6d., 2s. 6d., 4s. 6d., and 8s. 6d. Bottles.

IN THE PRESS.

THIRD EDITION. REVISED AND ENLARGED.

THE

British Homœopathic Pharmacopœia,

PUBLISHED FOR THE

BRITISH HOMŒOPATHIC SOCIETY

BY

E. GOULD & SON,

HOMŒOPATHIC CHEMISTS

AND

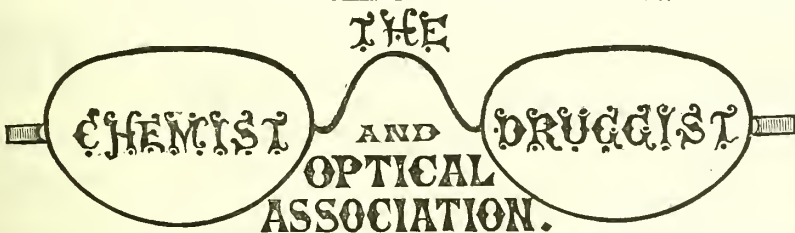
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PRICE LISTS OF MEDICINES, MEDICINE CHESTS, &c.,

POST FREE TO ANY PART OF THE WORLD.

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THE Association has been founded by gentlemen experienced in the Optical Trade for the sole purpose of supplying Chemists and Druggists with the celebrated Spectacles of the Association. The D. O. A. are prepared to supply their Customers with Circulars with the latter's name and address on; also Show Cards, Sliding Gauge testing, and printed Test Types, which will enable Chemists in a few moments to adapt glasses to their Customers. The Optical Trade will be found one of the most profitable branches in a Chemist's business, as the profits bear 100 per cent., and there is never any stock. The D. O. A. feel assured that the public will patronise Chemists with the utmost confidence, inasmuch as the former will naturally expect at Chemists are calculated to understand the eye better than the usual spectacle vendors, ironmongers, and watchmakers. The D. O. A. put up Assorted Parcels, and supply therewith, free of charge, Circulars, Show Cards, and Optometer. For particulars, apply early to **ARTHUR HASSELL, Manager, Chemists and Druggists' Optical Association** 5 Jew Street, Aldgate, London, E.C.

M. A. CRAVEN & SON,

WHOLESALE AND EXPORT CONFECTIONERS,

MAKERS OF

Medicated Lozenges, Refined Liquorice, Jujubes, and every description of Confectionery,

IMPORTERS AND MANUFACTURERS OF LEMON, ORANGE, AND CITRON PEELS.

FOR CONFECTIONERY WORKS,

YORK.

Lozenges of all descriptions made from Customers' private formulæ (or ingredients), and stamped with any name or device.

SPECIALITIES—Cough, Peppermint, Rose, Musk, Boquet, Cachou, and all kinds of Medicated Lozenges.

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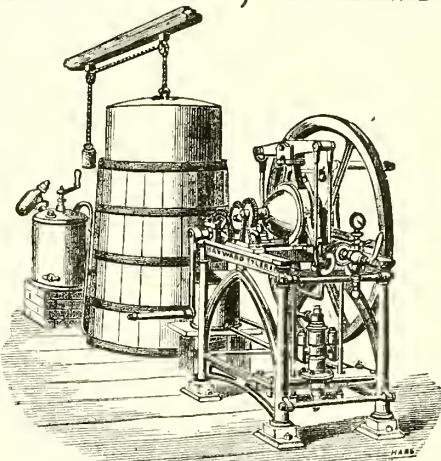
PRICE LIST ON APPLICATION.

SODA WATER MACHINERY,

WITH ALL THE LATEST IMPROVEMENTS.

GOLD MEDAL, PARIS, 1878

2,000 of these Continuous-process Machines have been sold, and many Thirty and Forty Years old are still in good condition and use, showing great durability and excellent finish of workmanship.



Bottling Machines, with and without Syrup Pumps; Syphon Fillers, Macdonell's Patent Automatic Bottling Machines, by which one boy or girl can turn out 140 dozen per day.

SOLE MAKERS—

HAYWARD TYLER & CO., ENGINEERS, WHITECROSS ST., LONDON.

ESTABLISHED 1815.

NOVELTIES IN BOTTLES AND STOPPERS.



THE
GLASS, EBONITE, PORCELAIN, &c.
DISC BOTTLE,

WITH NEW PATENT PURE RINGS,
SIMPLE, PERFECT, UNIQUE.

Likely to supersede all other Patent Bottles.



The Disc effectually covers the rubber when the bottle is filled.

These Bottles and Ebonite and Porcelain Discs can be supplied at a cheaper rate than the Prepared Glass, as No. 1.

THE SCREW STOPPER & BOTTLE,
For Ales, Porter, Cider, and
Brewed Beer.

The Screw Stoppers can be attached to the necks of the Bottles by a band of wire and a small chain, if preferred; price about 3s.6d. extra. See Fig. 4.

When bottling, the Stoppers must be wetted before screwing them in. Screw it gently but firmly home.

They should not be subjected to the action of any strong alkali, or great heat, and are not recommended for bottling spirits at present.

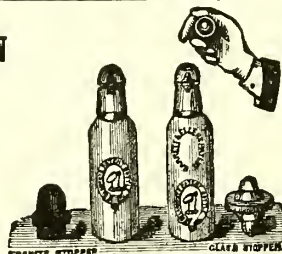
Essential and Indispensable for every Refreshment Room Proprietor, for every Hotel and Public-house, and for every Householder.

Our other, and well-known Stoppers, &c., still supplied as usual.

SAMPLES ON APPLICATION.



OUR ORIGINAL AND WELL-KNOWN
STOPPERS HAVE NOW BEEN
IN USE FOR YEARS BY
UPWARDS OF 1,000



MINERAL WATER MANUFACTURERS
AND OTHERS THROUGHOUT
THE UNITED KINGDOM
AND THE WORLD.

BARRETT & ELMERS, 9 Dacre Street, Westminster, LONDON, W.

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PRIZE MEDALS:

LONDON, 1862-73-4; VIENNA, 1873; PHILADELPHIA, 1876; CAPE, 1877;
PARIS, 1867-78; HIGHEST AWARD, SYDNEY, 1879-80.

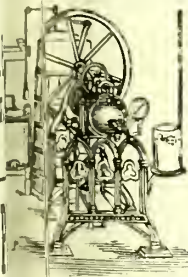
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SODA WATER MACHINERY

OF THE BEST MAKE ONLY.

Our machines are universally adopted throughout the world for the manufacture of all kinds of Aërated Drinks, both in Bottles, Syphons, or Counter Fountains. There are in England alone over 1,500 factories where our Machinery is in use. They are the simplest, safest, and cheapest for the purpose, and produce a highly charged gaseous water free from metallic or foreign contamination at a cost almost nominal.

All our Machines have a Gasometer, and it forms a most important necessity where purity of product is required, as in this the gas is expanded and purified; it also removes the possibility of ignition by explosion, and avoids the necessity of complication—these we consider of greater importance than the saving of a few inches of floor space.



THE "LONDON-MADE" SYPHON BOTTLE.

PRICES—

art size, 24s.; Pint size, 22s.; ½-Pint size (Pear shape), 21s. per dozen.

THE high reputation this bottle has achieved is due to facts its being in every particular the most perfect introduced, and when compared with others in the market it stands pre-eminent. It is the most simple in its working parts, therefore the least liable to get out of order; it is the most easily opened, the lightest pressure on the lever being sufficient; it produces a more highly charged gaseous water than is usually obtained from syphons; it compares most favourably in appearance with any, and the metal top being entirely free from lead, the prejudice against syphon drinks is removed, as the liquid passes over pure tin only.



SOLE AGENTS FOR

CODD'S PATENT SODA WATER BOTTLE.

*To whom all Export Orders must be sent.
The Home Orders may be sent through
any of the Licensed Bottle Makers.*

THIS Bottle for containing Aërated Waters is the most efficient of any yet invented, and is above all the one most appreciated by the public.

As compared with other Patent Bottles, it stands pre-eminent—there is no taste from rubber, the stopper being a glass ball; the internal pressure keeps this firm against the elastic collar in the neck. The Stopper does not fall into the Gaseous Waters, so that the Water retains its full Gaseous properties when emptied into a tumbler.



*Inventors and Patentees of the Fashionable Drink,
"FRUIT CHAMPAGNES."*

Lemon, Orange, Pear, Pine Apple, Raspberry, Strawberry, Ginger.

It is advisable to send for a Sample Case in first place to test the merits, after which fuller information as to cost, profit, license, &c., will be given upon application.

The most popular products of our orchards have now been converted into the most delightful of beverages, and a new and permanent addition has been thus made to the existing gamut of delicious flavours.

These Champagnes, although in themselves devoid of alcoholic properties, possess sparkling qualities and an exquisitely soft flavour, and excite but do not satiate the palate.

Upon receipt of 7s., Sample Case will be forwarded, containing one dozen assorted pint "Fruit Champagnes."

Upon approval and for future orders, the name of the nearest Licensed Bottler will be given upon application to above.



Licence granted for the right to Manufacture, and all information given upon payment of an annual nominal Royalty,

GLASS BOTTLES

OF EVERY DESCRIPTION FOR THE MINERAL WATER TRADE.

CHEMISTS, PERFUMERS, &c.

SYPHONS OF THE BEST FRENCH MANUFACTURE.

Cash Buyers should apply for Samples and Prices before placing their Orders.

J. MOUNTAIN & CO.,

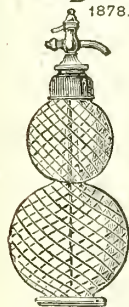
83 FINSBURY PAVEMENT, LONDON, E.
ESTABLISHED 1853.



EUGENE GERAUT & CO.

SELTZOGENES.

SYPHONS.



1878. For immediate production of Eau de Vichy, Soda Water, Sparkling Lemonade, and Aerated Waters. First introduced by EUGENE GERAUT & Co. in 1853.

3-pint Size, Wire, 13/0; Cane, 13/6
5-pint " " 18/0; " 19/0
8-pint " " 30/0; " 32/0

Strongly silver-plated top, 5/ each extra.

3-pint size, strongly silver-plated, richly decorated porcelain stands, 30/ each; 5-pint size, ditto, ditto, 38/ each; 8-pint size, ditto, ditto, 48/ each.

Our well-known Seltzogenes are improved yearly, and have already stood a public test of upwards of Twenty Years, and are acknowledged as **THE VERY BEST.**

POWDERS FOR THE ABOVE.—3-pint, per dozen boxes, 22/; 5-pint, ditto, 36/; 8-pint, ditto, 45/.



Clear or coloured glass, pure ENGLISH BLOCK TIN TOPS, with piston or cap.

22/6

per dozen, for quantities of not less than one gross.

Packing in Cask, 5/ per gross.

The Name marked on the metals free of charge for quantities of not less than one gross.

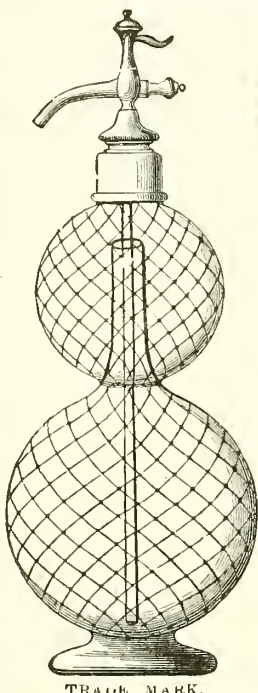
The Name engraved with Trade Mark, from 1/6 to 2/ per dozen extra.

Illustrated Catalogue on application.

Large Discount.

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MELBOURNE EXHIBITION.
FIRST ORDER of MERIT awarded to THESSIER-FÈVRE.



TRADE MARK.

D. Fèvre
REGISTERED.

CELEBRATED D. FÈVRE SELTZOGÈNES & POWDERS

For immediate production of Soda Water, Eau de Vichy, Sparkling Lemonade, and Aerated Wines.

D. FÈVRE, 398 RUE ST. HONORÉ, PAIS.

Sole Inventor and Proprietor of the Article and Name "SELTZOGENÈ."

THESSIER-FÈVRE. Son-in-Law, Manufacturer.

WHOLESALE PRICES.

Celebrated D. Fèvre Seltzogene.	5	3 pint, wire covered	12s. 0d. each.	} liberal account allowed.
		3 pint, cane covered	12s. 6d. "	
		5 pint, wire covered	18s. 0d. "	
		5 pint, cane covered	19s. 0d. "	
		8 pint, wire covered	30s. 0d. "	
Case and Packing	12	Seltzogenes, 3 pint size	4s. 0d. net.	
	12	" 5 "	5s. 8d. "	
	6	" 8 "	9s. 8d. "	
Celebrated D. Fèvre Powders for the Seltzogenes.	3	3 pint, per doz. boxes of 12 charges,	24s. 0d.	} liberal account allowed.
	5	" " "	36s. 0d.	
	8	" " "	60s. 0d.	
Pure Tartaric Acid and Bicarbonate of Soda in the highest state of perfection.	3	3 pint, per doz. boxes of 10 charges,	20s. 6d.	
	5	" " "	30s. 6d.	
	8	" " "	45s. 2d.	

EXTRA:—Taps, Tubes, Valves, Washers, &c.

DIRECTION FOR REPAIRS.

DRIP CATCHERS, FITTINGS, MEASURES, &c.

ALL MY GOODS ARE TESTED.
ILLUSTRATED CATALOGUE FORWARDED FREE.



H. FAVARGER

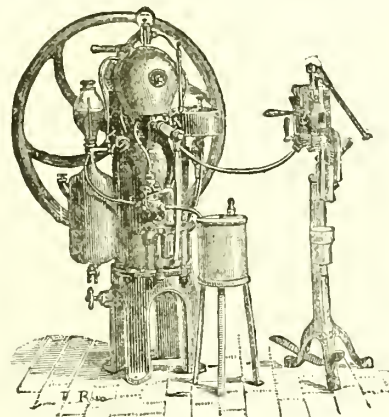


has much pleasure in informing those contemplating entering the Soda Water business that new and extensive plant has just been laid down for producing, in large numbers, the various sizes of

SODA WATER MACHINES

ON THE PATENT MONDOLLOT SYSTEM,

The chief features of which are the entire suppression of the Gasometer, economy of materials and space, and saving of labour.
N.B Every Machine is fitted with two large Purifiers, in which the Gas is thoroughly cleansed from all impurities and is allowed to expand itself.



The "MEDIUM," with Filler.

In this system there is

No Gasometer.

No danger of Explosion.

No Skilled Labour required.

No previous knowledge necessary.

"There is no ordinary generator or gasometer in connection with this machine, and therein lies the secret of its advantage over ordinary English Machines."—*The Mineral Water Trade Recorder and Advocate.*

These Machines are

The Cheapest.

The most compact.

The most simple to work.

The most reliable.

"When explained it is simplicity itself.... The fact of the economy of skilled labour and the saving of materials being the chief and most important points."—*The Mineral Water Trade Review and Guardian.*

These Machines are made to any size, but the most usual in demand are—

The "GEM" (No. 0, price £28).

This is small but complete plant in itself, which is capable of making upwards of 100 dozen of first-class aerated waters in the day. It is sent out tested and fitted ready for work, and is accompanied by all the necessary accessories.

Mr. H. FAVARGER.—Dear Sir,—It is with much pleasure I can testify to the excellent working of your No. 0 Machine. It has been constantly at work, and nothing ever goes in any way wrong. It has produced 100 dozen splendid aerated beverages per day. I consider it a Perfect Little Gem.—I am, dear Sir, yours truly,
(Signed) JAMES DEAN.

43 & 45 HIGH STREET EAST, SITTINGBOURNE: August 3rd, 1881.

The "MEDIUM" (No. 1, price £46).

A vereseful size, comprising the whole apparatus for producing 150 dozen of first-class aerated waters daily. It consists of an automatic generator fitted with water safety-valve, gun-metal pump, copper saturator heavily tinned, copper purifier, glass trifler, pressure and water gauges, and it is sent out complete, with solution pan fitted with glass ball cock and stand, spanners, funnels, and all accessories.

Mr. H. FAVARGER.—Dear Sir,—We have much pleasure in stating that the Soda Water Machine we had from you about three months since does its work admirably and we are perfectly satisfied with it. We also find your double filling machine a great improvement to the one we had previously been using.
We are, dear Sir, yours very truly (Signed) JOHN SARSON & SONS.

HOTEL STREET, LEICESTER: December 22nd, 1880.

The "ACME" (No. 2, price £67).

Similar in every detail to the "MEDIUM," but it is larger in every respect, and is made to turn out 300 dozen of the finest aerated waters in a day. It is sent out complete with all accessories.

Mr. H. FAVARGER.—Dear Sir,—It affords us great pleasure to testify to the perfect manner in which your machinery (type No. 2) supplied to us has hitherto answered our requirements. We consider your type of machinery to be the best in the market, as it is the only one that obviates the necessity of a Gasometer and Gas Storage, and we are able to bottle at a much lower pressure than those who under the old system were to draw gas from a Gasometer, which, owing to atmospheric variation, is frequently in a rarefied form and necessarily of less strength. Although your apparatus seems to the uninitiated to be complicated, it is in use found to be most simple, easily understood and managed. The machine you supplied to us has now run a whole season, has needed no repairs, and, properly charged, invariably works well.—We remain, yours faithfully,
(Signed) C. D. BARKER & CO., Chemists and Mineral Water Manufacturers.

(Since this report was written the machine has been working perfectly.)

THE ABOVE SIZES ARE THE MOST SUITABLE FOR CHEMISTS.

For full particulars of the "STANDARD" and all larger sizes on application.

EVERY MACHINE GUARANTEED.

For full particulars of these Machines, and of all the various requisites for the Trade, apply to

H. FAVARGER, 75c TURNMILL STREET, LONDON.

SODA WATER MACHINERY,

AND ALL ACCESSORIES USED IN THE TRADE, BY

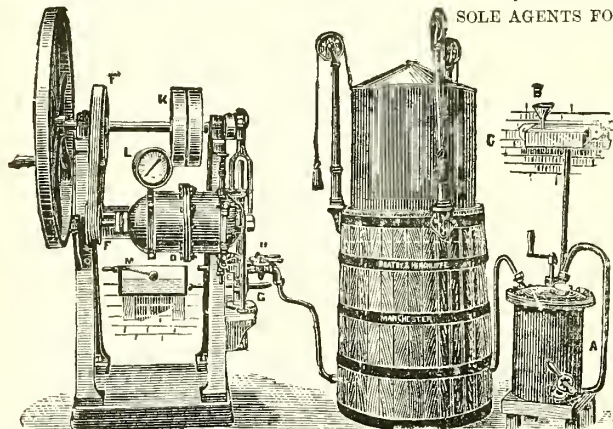
BRATBY & HINCHLIFFE, 43^C Pott St., Ancoats, Manchester,

SOLE AGENTS FOR JAMES GALLOWAY, OF BOLTON, AND HIS NOW FAMOUS

Lilliputian Soda Water Plant,

See Engraving,

Which is made specially for new beginners & small trade.



No. 1 Plant makes 400 doz. per day, and is fitted with 1½ Pump and 2 gall. Cylinder, with Gasometer and Generator. PRICE £52 10s. No extra

No. 2 Plant makes 600 doz. per day, and is fitted with 2½ Pump and 4 gall. Cylinder, with Gasometer and Generator. PRICE £63. No extra

Descriptive Circular forwarded post free on application.

Every Purchaser of Soda Water Machinery should obtain our "MONTHLY LIST" of New and Secondhand Appliances, and also our Circular and Price List of Specially Prepared *Desserting Sodas*, *Essences and Essential Oils* and other Drugs used by the Trade, which are much stronger and 30 per cent. cheaper than is usually obtained.

BRATBY & HINCHLIFFE, 43^C Pott St., Ancoats, MANCHESTER.

SYPHONS.

H. FAVARGER has much pleasure in announcing that, encouraged by the enormous demand last season for the well-known **MONDOLLOT SYPHONS**, he has made special arrangements for the prompt supply of these convenient vessels. Nevertheless, he would remind his customers, and also intending purchasers, that it is greatly to their advantage to order early, as then the necessary time can be given for an especially well finished article to be turned out.

The few following are the leading points of these Syphons:—

THE TOP is of pure tin, which is warranted to contain no trace of lead, copper or other injurious metal. It is carefully turned and polished.

THE SPOUT is cast in one piece with the top, and not soldered on, so that it is almost impossible to break it off.

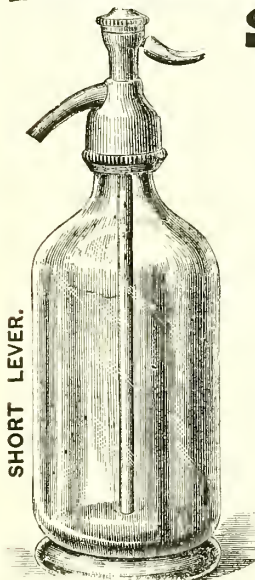
Its curved shape also facilitates the egress of water, thereby preventing to a great extent the loss of gas which occurs whenever the flow of aerated water is obstructed by sharp angles.

THE LEVER, usually a source of trouble from constant breakage, is specially made to resist heavy blows, being of great thickness and strength at the point of contact with the head of the syphon.

THE PISTONS are of pure tin.

PRICES.—Short Lever Cylindrical White or Blue Glass, 26/- per doz. Long Lever Cylindrical White or Blue Glass, 27/- per doz. Special terms for large quantities. Name on head free. Silvering from 12s. per dozen. Nickeling by new process, 4s. per dozen. For Samples and further particulars apply to

H. FAVARGER, 75^C TURNMILL STREET, LONDON.



SHORT LEVER.



LONG LEVER.

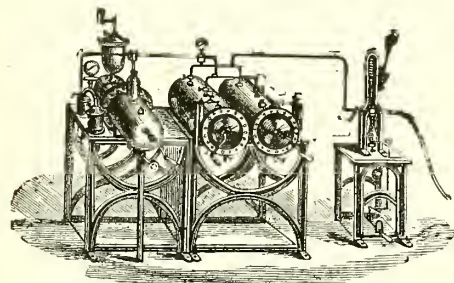
SODA WATER MACHINERY,

ALL KINDS.

PATENT STOPPERED BOTTLES

ALL KINDS.

ICE-MAKING MACHINES,



SODA WATER MACHINE COMPLETE, WITH RACK.

AND ALL REQUIREMENTS OF EITHER TRADE.

SEPARATE CATALOGUES, POST FREE.

BEFORE BUYING, SEND FOR CATALOGUE TO

DAVENPORT & CO., 99^N High Holborn, LONDON.

ALSO AGENTS FOR

HAYWARD TYLER & CO.'S MACHINERY.
BARRETT'S PATENT BOTTLES.

CHEAVIN'S FILTERS.
WILKINSON'S PATENT BEER BOTTLES.
CROSSLEY'S AND "BISSCHOP" GAS ENGINES.

ADVERTISE A GOOD THING.—SHAKESPEARE.

INCREASING VALUE—LOW PRICES—STEADY PROGRESS—INCREASED SALE—

Characterise **WILCOCKS'** High-class

SODA WATER MACHINES AND BOTTLING APPARATUS.

(WORKS: BACK STREET, BATH.)

REMARKABLE TESTIMONIAL.—At one of the
billionst the Agricultural Hall the pub-
r of is journal (THE CHEMIST AND
GOIST) as talking to me at my stand,
a gentleman unknown to me came up,
witho any preamble (after asking if
Mr. Wilcocks), expressed his great satis-
on witho of my full-sized "Favourite"
lines, which he had seen advertised in
CHEM AND DRUGGIST, and had con-
ntly phased.

RECENT CASE.—We had a customer here
week go from Sleaford, who had been
mende to us by a previous purchaser
anthat. Our new customer would have
hins ectly like the one he had seen, and
ade af the new pattern. We made one
n on old pattern.

court investigation of our machines.
of our es result from the recommenda-
of pious customers; and we can
be numerous cases of clients who have
ed m aerated water factories and
aced ttr orders with us.

shall loblged if any one thinking of
necing es business will write to us.
er busss results or not we shall be
o have ns opportunity of quoting and
g.

a who ay be prejudiced against our
es by reason of their low prices are
to exine closely into our factory and
machary in process of construction
stages. We are also favoured by several
custors with permission to introduce
ing pulasers to their works, where our
es can seen at work.

have a chine in daily use here, making
for e workpeople only. This can
be seen and we furnish recipes and all
instru to every purchaser.

"THE FAVOURITE."

NEW PATTERNS FOR 1882.

All Wilcocks' "Favourite" Machines are made on
the Bramah Principle, pure and simple, and they
produce a highly-charged gaseous water.

The forged cranks are of best wrought iron, of immense strength, in massive cast-iron standards with big fly-wheels. The condenser, toothed wheels and pump, and index cocks are of best selected polished gun-metal, and are unrivalled as specimens of the founder's art. The condensers are fitted with agitators after the approved mode, and carefully lined with the best obtainable English tin, after the approved mode. They are fitted together with bolts and nuts, so that they can be easily taken apart for examination. The plunger of the pump works up underneath the pump, through a ring or collar of the capped leather valve-box at the top of the pump.
An important feature in our machines is the goodly size, as well as the strength, of our gas work. The generator is made of stout lead; one end is easily removable, being fastened on with bolts and nuts; the shaft is of wrought copper, on which are fixed gun-metal rousers, and the connections, inlet and outlet, &c., are of gun-metal; the tubs of stout oak strongly hooped; and the gasholder of copper. These machines have had our constant study for years past; beautiful in design, and carefully finished, and will bear comparison with any machine in the market.

WE HAVE NOT ADVANCED OUR PRICES.

Wilcocks' Full-size "The Favourite," Bramah Principle, Soda Water Machine, with 1½-in. Pump and Gun-metal Polished 2-gallon Condenser, and extra size Gasometer and Generator, with Strap Pulley and Handle, Dial Pressure and Water Gauges, Quadrant, Corking Rack for filling corked bottles, and "Eclipse" Filling Machine, on stand, for patent internal stopper bottles (Solution Pan is fitted with Buoy Valve, all pipes fitted and tested here by actual work before sent off), and Spanners				£58	0	0
If packed in three extra strong iron-bound cross-battened cases for export, total weight one ton, add extra				£4	10	0
Ditto, as above, to make 600 dozen per day, with 2-in. Pump and 3-gallon Condenser, &c., with Gas work and Two Racks				£68	0	0
If packed in three extra strong iron-bound cross-battened cases for export, add extra				£6	10	0
Ditto, as above, to make 1,000 dozen per day, with 2½-in. Pump and 4½-gallon Condenser, &c., with Gas work and Two Racks				£80	0	0
If packed in three extra strong iron-bound cross-battened cases for export, add extra				£7	10	0
Ditto, as above, to make 1,500 dozen per day, with 2¾-in. Pump and 7½-gallon Condenser, with Gas work and Two Racks				£111	10	0
If packed in three extra strong iron-bound cross-battened cases for export, add extra				£9	10	0
Ditto, as above, to make 200 dozen per day, with 1½-in. Pump and 1½-gallon Condenser, with Gas work and Two Racks				£45	10	0
If packed in three extra strong iron-bound cross-battened cases for export, add extra				£3	15	0
Wilcocks' "Eclipse" Filling Machine for all the internal Stopper Bottles. We invite attention of Bottlers, as we believe it to be the Simplest and best in the Market. Is now made from all New Patterns for 1882, and cannot get out of order. A boy or girl can work it as well as a man.						

Railway Carriage Paid.
 Terms, 5/- per dozen in
 quarterly account,
 5 per cent. discount on
 cash with order.



*Retail, 6/- per dozen,
 bottles included.
 Circulars and Showcards
 free.*

NOTICE.

TO ALL CHEMISTS AND DRUGGISTS
 IN THE KINGDOM.

THE SHELFANGER.—This delightful
 effervescent Antacid and Tonic Table
 Water, after March 1st, 1882, can only be
 obtained direct from the Spring, in Cases
 of 3 dozen each, half-pints.

PROPRIETOR—
 "SHELFANGER" SPRING, NEAR DISS.

Discovered by a Member of the Royal College of Surgeons of England.

This natural Antacid and Tonic Mineral Water claims to be a most valuable medicinal beverage, in that it pos-
 sesses the proper proportion of the Carbonates of Magnesia and Iron, which can neither relax nor bind the system, exerting
 the tonic and invigorating virtue of Iron and corrective property of Magnesia. The proportion of these most impor-
 tant ingredients is such that it may be taken as ordinary Table Water, being, in short, a simple, effective, safe, and agree-
 able Alkaline Chalybeate. It is particularly recommended by some eminent members of the medical profession for the fol-
 lowing complaints: *Dyspepsia, Anemia, Debility, and Weak Digestion*, and when a constitution requires *Tonicity and Vigour*. *Epilepsy*,
Hemiplegia have been materially benefited under its dietetic use, showing it to be of great value in imparting tone to the
 nervous system. The Water, aerated, may be procured from the above Mineral Water Importers, and on recommendation
 of medical men *Invalids* of the upper class are received at the "Spring," where the climate is invigorating, and consumption
 unknown; and in a county where "more than 80 persons have outlived their 100th year within a period of less
 than 40 years."—*White's History of Norfolk.*

Extract from Analytical Report by Professor ATTFIELD, Ph.D., F.R.S., F.I.C., F.C.S., Professor of Practical Chem-
 istry to the Pharmaceutical Society of Great Britain.

"The 'Shelfanger' is a valuable Magnesian Antacid and mild Chalybeate Water."—JOHN ATTFIELD.

From THOS. COLE, Esq., M.D., M.R.C.P. Lond., Physician to the Royal United Hospital, Bath.
 "The Shelfanger Mineral Water is Antacid and Chalybeate. I would therefore strongly recommend it in
 Dyspeptic conditions, Suppressed Gout, and Anemia."

From CHAS. WHITBY, Esq., M.P., Leamington.
 "I am much inclined to believe that the Shelfanger Mineral Water will ere long become a popular beverage
 Gouty, Debilitated, and Anemic Invalids."

From FREDK. THORNE Esq., M.R.C.S., &c.
 "I have tried the Shelfanger Mineral Water, and find that it possesses all the characteristics claimed for it, it
 is, moreover, very agreeable, which cannot be said of most Chalybeates."

PROPRIETOR—

THE "SHELFANGER" MINERAL SPRING, NR. DISS.

FOREIGN

Mineral Waters and Zoedone.

FREDERICKSHALL (5 Cases, 6d. per Case
 less), 24/6 Case, 30 bot.; 34/ Case, 60 1/2-bot.

APOLLINARIS (10 Hprs., 1/- and 1/6 less),
 24/ Case, 50 bot.; 36/6 Hpr., 100 1/2-bot.
 Hampers free.

HUNYADI JANOS (10 Cases, 3/- and 5/- less),
 30/- Case, 25 bts.; 50/- Case, 50 1/2-bts.

SELTZER 11/- Hpr., 25 bts.
 15/- Hpr., 50 1/2-bts.

FULLNA 18/- Case, 20 bts.
 30/- Case, 50 1/2-bts.

VICHY 31/- " 50 bts.
 37/- " 50 1/2-bts.

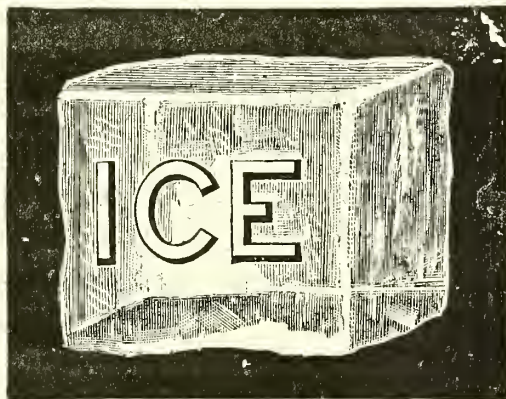
CARLSBAD 37/- " 50 bts.
 KISSENGEN 42/6 " 50 "

SCHWALLBACH 27/6 " 50 "
 HOMBURG 37/6 " 50 "

WILDUNGEN 40/- " 50 "

CARLSBAD SALTS, 1-Bots., 20/- per doz.;
 1-Bots., 40/- per doz.; Bot., 80/- per doz.

ZOEDONE, 5/- per doz., 6-doz. Cases (if
 5 Cases, 3d., 10 Cases, 3d., 20 Cases, 3d. per
 doz. less).



ICE AT STATIONERS' HALL.

Norway Block Ice.

Packing and Mats for Original Block Ice,
 3d. each allowed for Mats if returned.

Present Season's Ice specially fine and
 thick. Low quotations given for quantities
 taken from vessels while discharging.

PRINTED DIRECTIONS for STICKING
 ICE sent free on application.

W. B. HARRISON,

IMPORTER OF ICE AND
 MINERAL WATER,

6 Bridge Street, Sunderland.

JEWSBURY & BROWNS

MANCHESTER

MINERAL WATERS

PURE SODA, SELTZER, POTASH, LITHIA, &c.,
 LEMONADE,
 GINGER ALE, AND QUININE TONIC.

Prepared and Bottled specially for Export, and warranted to keep well.

Manufactured with the utmost care and by improved machinery, these productions are recommended
 for purity and excellence of quality by many leading members of the Medical Profession,
 and have for many years had a preference by the public; the flavour of the Lemonade and
 Ginger Ale being procured from the fresh Fruit and Finest Jamaica Ginger, they may
 be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially
 for invalids.

The Soda Water is absolutely free from any metallic impregnation, and being by improved
 machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying
 proportion of Pure Carbonate of Soda, J. & B. have every confidence in inviting a trial from
 those who have not already patronised them.

The Seltzer, Potash, and Lithia Waters are prepared with the utmost exactitude and the
 purest ingredients.

The New Quinine Tonic furnishes a pleasant form for the administration of a most valuable
 restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic
 and warm stimulant beverage.

N.B.—Every Bottle is protected by a distinctive Label, with Name and Trade Mark,
 and each Cork is branded.

Counter Bills and Analytical Reports, with Agents' Names and Addresses, supplied
 when requested.

JEWSBURY & BROWN, 44 Downing Street, 3 Grosvenor Street, and 113 Market Street, MANCHESTER.

A CERTIFICATE OF MERIT, for superiority of quality,
 was awarded to Jewsbury & Brown at the Exhibition of
 Sanitary Appliances, at Owens College, Manchester, on
 the occasion of the Meeting of the British Medical
 Association, August, 1877.

A CERTIFICATE OF MERIT, for superiority of quality,
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TO BOTTLEERS OF MINERAL WATERS AND AERATED DRINKS.

J. G. WILCOCKS' **"ECLIPSE"** for 1882

UNEQUALLED AND UNRIVALLED

TURNOVER FILLING MACHINE.

With Recent Improvements,
FOR BOTTLING
Codd's, Lamont's, Disc,
Barrett & Elers',
And all other Patent internally-
stoppered Bottles.

THIS MACHINE HAS EARNED A WORLD-WIDE REPUTATION.
ON COMPARISON WITH OTHERS IT IS PRE-EMINENT.

It has the most simple action	Therefore is the least likely to get out of order.
It fills and syrups all internally stoppered bottles	Small or large, and of any shape.
It is worked with marvellous rapidity	The most ignorant person can work it at once.
It can be attached to any machine	English, French, American, or any other.
It has no ground-in cocks, valves, or plugs	All its parts are simply constructed.
It fills and syrups by one motion	A boy or girl can work it.
It bottles drinks highly charged with gas	With less pressure in the cylinder.
It therefore economises gas	Its rapid action economises time.
Its simplicity economises labour	Its cheapness economises cost.

We manufacture these Machines with massive castings, cast in our own foundry, which has always a high local reputation for the superior castings turned out.

Wellways have a number of these Machines in process of manufacture.

Wellways have one at work bottling drinks for our workpeople only.

We are always glad to show the Machines to our customers, in any stage and in action.

The **"ECLIPSE" FILLING MACHINE** is the best and cheapest in the market. It is made of strong iron, and the workmanship throughout is of the highest class. It soon saves time by its rapidity. It saves gas, and cannot waste the syrup. The syrup pump is certain in its operation, can be adjusted with the greatest nicety from zero to two ounces. It will not syrup a bottle and cannot miss once. One motion only required to throw the pump out of gear for bottling plain or in-syrup drinks.

We have had hundreds of testimonials from parties who have purchased them.

We have never had one returned which we have sent out for a fortnight's trial.

We receive continually more and more orders for these Machines.

"ELIPSE" Filling Machine, to bolt to a Bench	£4 10 0
Had some Cast-iron Standard, extra	add. 1 0 0
Syrup Pump	3 0 0
Packed complete, as above in extra strong, extra Iron- bound Packing Case for Export	add. 0 15 0

SOLE MAKER:

G WILCOCKS, SODA WATER MACHINIST, **BACK STREET, BATH.**

BOURNE WATER.

THE PUREST IN ENGLAND.

R. M. MILLS & CO.,
BOURNE, LINCOLNSHIRE,

Manufacture all kinds of Aerated Waters from this celebrated Artesian Spring.

Dr. ANDERSON'S Tissue Phosphate Tonic Water, an Aerated Tonic Beverage containing all the Mineral Elements of Nutrition (no Iron), and assisting Digestion in a most marvellous degree.

SOLD BY THEIR AGENTS THROUGHOUT ENGLAND. PRICE, WITH DESCRIPTIVE PAMPHLETS, UPON APPLICATION.

SPECIAL AGENTS IN LONDON—

Messrs. INGRAM & ROYLE, Victoria Street, and
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GEORGE TITTENSOR,
MEDICAL LABELLER & GLASS WRITER,

10 FISHERGATE, YORK, having worked for the last 10 years at the York Glass Works, begs to state that he can supply Show Tablets and Glass Drawer Labels of the latest patterns; also Paper Labels, &c. Shops and Show Jars re-labelled in any part of the country. TERMS ON APPLICATION.

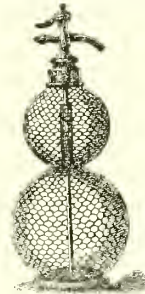
Price 5s., post free.

"AERATED WATERS AND HOW TO MAKE THEM."

With Receipts for Non-Exciseable Cordials, American and other Syrups, and an Essay on the Art of Flavouring; by JOSEPH GOOLD.
An invaluable handbook for the high-class manufacturer.

J. GILBERT SMITH, Publisher, 141 Queen Victoria Street, E.C.

Prize Medals—
YORK, 1879. SYDNEY, 1879. MELBOURNE, 1880. ADELPHI, 1880.
THE
BRITISH SYPHON MANUFACTORY,
EUGSTER & KOERTGEN, Proprietors,
2 Gresham Buildings, Basinghall Street
WORKS: LAMBETH, S.E. LONDON, W.C.



SELTZOGENE

3 pint size, wire, 13s.; cane, 13s. 6d.
5 " " " 18s.; " 19s.
8 " " " 30s.; " —

Silverplated top or wire, 5s. extra.
Drop Cups, Measures, &c.

LIBERAL DISCOUNT FOR QUANTITIES.

IMPORTANT.

In ordering our Seltzogenes through A. & S. distinctly state that you require the "Shield Brand," and see that you get others inferior to our apparatus.

GUARANTEED
first-class



PERFECT, and of workmanship

SYPHONS.

Short Levers, 22 6; Long Levers, 24/-
per dozen net.

WHITE, BLUE, AMBER, OR GREEN BOTTLES.
CYLINDRICAL OR OVAL SHAPED.

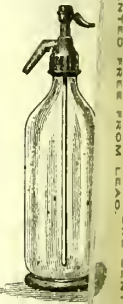
SILVERPLATED TOPS FROM 8s. PER DOZEN EXTRA.
Name stamped on metal tops free for one gross.

Name and Trade Mark engraved on the bottles by the acid process from 1½d. to 2½d. each extra.

Soda Water Machinery.

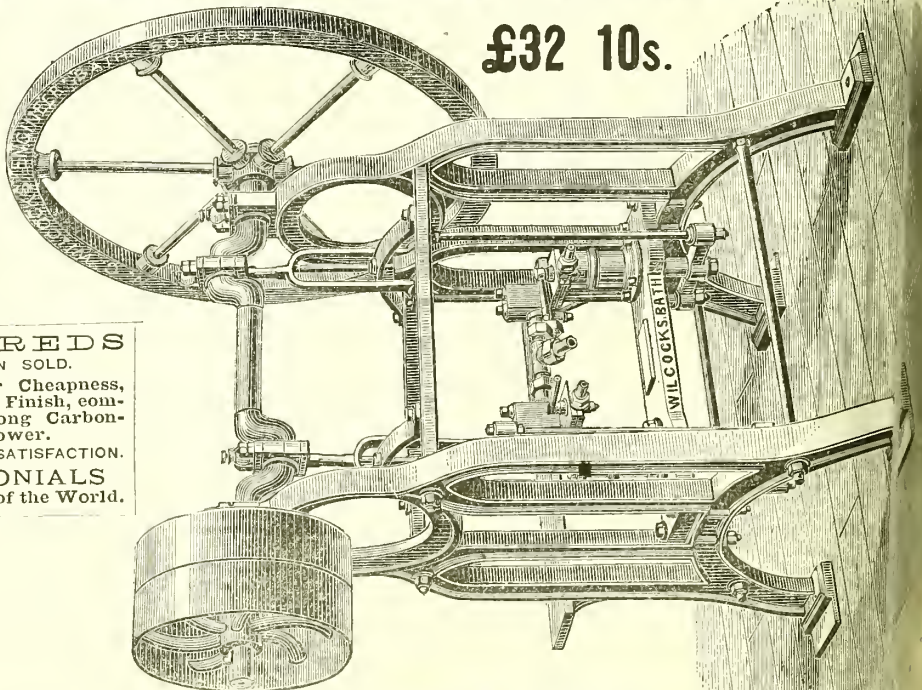
NEW AND IMPROVED CONTINUOUS APPARATUS
With one or two Pumps.

GENERATORS, WASHING VESSELS, GASOMETERS,
SYPHON FILLING AND SYRUP DOSING MACHINES.



WILCOCKS' CELEBRATED DOUBLE SODA-WATER MACHINE.

£32 10s.



HUNDREDS
HAVE BEEN SOLD.

Unequalled for Cheapness, Durability, and Finish, combined with strong Carbonating Power.

ALWAYS GIVES SATISFACTION.

TESTIMONIALS
From all parts of the World.

2½ in. RAM PLUNGER.

N. G. WILCOCKS, SODA MACHINIST, **BACK STREET, B.T.H.**

ZAMENÉ.

(REGISTERED.)

An elegant and Exceedingly Palatable Beverage, Possessing Nerve and Brain Sustaining Properties.

Strongly recommended to those whose Mental and Physical Powers are overstrained by much Brain Work, Vorry, &c., as it contains in a most assimilable form the Tonic, Restorative, and Invigorating Properties of Hypophosphites, including Iron.

MEDICAL REPORTS:—

EDWARD DAVIES, Esq., F.C.S., F.I.C., &c., of the Royal Institution, Liverpool, certifies (March, 1881):—"I have analysed your non-alcoholic beverage 'Zamené,' and find that it contains a tonic combination of phosphorus, with iron, lime, potash, and soda. The proportions are sufficient to make it a gentle tonic and stimulant, but *not* so large as to unfit it for ordinary and regular use. It is most agreeable in flavour, and is superior to any preparation of the kind which I have seen."

DR. NICOLL, M.R.C.S., &c., Medical Officer of Health, St. Helens, says of Zamené (after two months' trial):—"It suits my patients very well, especially the convalescent and anæmic ones. It is very agreeable, which is important, because it is desirable to keep friends with the stomach and palate. Better still, it quickens the energy of the digestive process and rouses the whole system. Your Zamené is the best of the kind before the public. I predict a great success for you."

PREPARED ONLY BY

JOHN LYON & CO.,

VICTORIA WORKS, LORD NELSON STREET, LIVERPOOL.

SOLD RETAIL BY WINE MERCHANTS, CHEMISTS, GROCERS, &c.

HAY'S GINGER CHAMPAGNE

CAN BE OBTAINED FROM THE SOLE AGENTS,

NGHAM & ROYLE, 119 Queen Victoria Street, LONDON, E.C.,
AND BATH BRIDGE, BRISTOL.

Price, in Half Champagne Bottles, 5s. 6d. per dozen.

This **PARKLING, EXHILARATING, REFRESHING DRINK**, while being most agreeable in bouquet and flavour, is the **FINEST CHAMPAGNE WINE**, at the same time, unlike it, **FREE** from COOL.

Samuel Free Hospital, Lower Seymour Street,

Portman Square, London, W.

Dear Sir, I have tried your Ginger Champagne, which I find excellent, and I look upon it as a step in the right direction towards meeting a long-felt want. Our Senior Physician, Dr. J. S. S. has also tried it, and is much pleased with it. We at long last have had such a beverage, and I believe that a drinking would thus have been prevented. I wish to express my thanks for your success.

I am, dear Sir, yours faithfully,

GEORGE SCUDAMORE, Secretary.

52 Montague Square, London, W.

—I am able to state that your Ginger Champagne is excellent most refreshing. It will, I trust, supersede those cheap effluvia that meet us at many inns and railway stations, and which are the only drinks to be had. In providing this beverage you have greatly assisted the cause of temperance, and I shall recommend it to my friends.

C. H. F. ROUTH, M.D.



It is strongly recommended both for Juveniles and Adults, &c., as the most Wholesome Stimulating Beverage that has hitherto been introduced, and should be in every household during all seasons of the year.

19 Oxford Terrace, Hyde Park, London, W.

I have tried Hay's Ginger Champagne and like it extremely. I consider it is infinitely superior to the numerous non-alcoholic beverages now so largely advertised. It is an invigorating and refreshing tonic beverage, and, as such, I can confidently recommend it.

W. DOMETT STONE, M.D., Phys. Finsbury Dispensary.

An excellent and most agreeable beverage.—*The Lancet*. Made by Mr. Hay, of Hull, with his well-known SOLUBLE ESSENCE OF JAMAICA GINGER, takes rank as a PURE, WHOLESOME, STIMULATING, and NON-ALCOHOLIC beverage.—*British Medical Journal*.

One of the most delicate and wholesome drinks in the market.—*Medical Press*.

This is a beverage which the practitioner can safely recommend.—*Medical Times and Gazette*.

Mr. Hay, of Hull, deserves abundant success with his Ginger Champagne. It is an exhilarating, wholesome, and very agreeable beverage.—*The Chemist and Druggist*.

Manufacturer, W. HAY, Chemist, &c., 4 Regent's Terrace, HULL.

CHEMISTS' AERATED AND MINERAL WATERS ASSOCIATION (LIMITED).

Manufacturers of MINERAL WATERS IN GENERAL, AND ALSO THE SPECIALITIES.

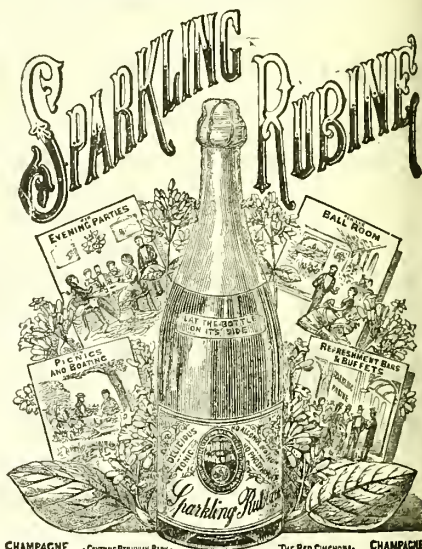
SPARKLING LIMINE.

A Delicious Lime Fruit Beverage, Free from a Musty Flavour.



Of Chemists, 5/6 and 8/6 per dozen.

Contains no Iron, no Phosphorus, but FRUIT AND VEGETABLE PRODUCTS ONLY.



Of Chemists, 5/6 and 8/6 per dozen.

THE WATERS BEING OF FIRST QUALITY, A TRIAL IS SOLICITED.

Offices and Factories—45 Gifford Street, and 112 Pembroke Street, Caledonian Road, London; and Carrigata.

In Champagne Pints.
Bin Cases hold 3 dozen each.
Carriage paid on Goods and
Empties.

"A TRUE BRAIN & NERVE TONIC."

Kinmond's
SPARKLING
Phosphoretta,

A DELICIOUS, SPARKLING BEVERAGE FOR DAILY USE,
EXHILARATING YET NON-ALCOHOLIC.

Trade Terms and Handbills, with Retailer's name and address on free.

APNEUMATIC

GINGER ALE (Aromatic).



MINERAL WATERS

ORANGE CHAMPAGNE.

GUARANTEED FREE FROM ALL IMPURITIES.

Our terms are more favourable for a family trade than those of any first-class make.

KINMOND & CO., late J. DAILY & CO., LEAMINGTON

Trade List and Descriptive Pamphlet of the Apneumatic process free on application.

Hunyadi János

ATTENTION.—Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Solo Proprietor of the Hunyadi János, compel him to WARN the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

ards Six Gold and Silver Medals, &c.: Sydney, Melbourne, Brighton, Sanitary Institute, London Food, New Zealand.

ANE CHAMPAGNE,
ARLING VINITA,
ARLING MALT WINE,
ARLING LIME JUICE,
NGR CHAMPAGNE.

Champagne Bottles and 1/2-Bottles.



SODA WATER,
SELTZER WATER,
POTASS, LEMONADE,
GINGER ALE, &c., &c.

In 10-oz. Cylinders.

Samples and Lists on application.

Caution

W. A. ROSS, the Original Patentee and Maker of
The Celebrated Belfast Ginger Ale, cautions
the public that the "GENUINE" can only be had at

Ross's Royal Ginger Ale
AND
Aerated Water Works Belfast.

NAM ON CORK, CAPSULE, AND LABEL REGISTERED.

EXPORT ORDERS HAVE SPECIAL ATTENTION.

NEW AND IMPORTANT DISCOVERY.

GINGER ALE

FROM PURE JAMAICA GINGER.

THE ROYAL YORK-
SHIRE GINGER ALE,
from Pure Jamaica Ginger. Is Non-
Intoxicating.



ABSOLUTELY PURE.—
See Analysis by Drs. J. H. HASSALL,
M.D., and OTTO HEHNER, F.C.S.

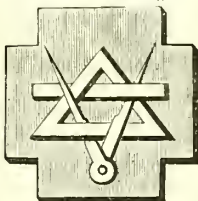
The difficulty of using Ginger in the Manufacture of "Ginger Ale," and at the same time having a CLEAR and SPARKLING DRINK, has, after much labour and expense, been thoroughly overcome by

Messrs. HARSTON & CO., of LEEDS.

"VICTORIA" OFNER MINERAL BITTER-WATER.

THE BEST NATURAL APERIENT.

TRADE MARK.



saordinary, and gentle aperient,
flamation and congestion,
eurtic and gouty disorders,
st idue tendency to fat,
st emorrhoids,
liou attacks and disorders of the liver,

During pregnancy and in many female diseases,
For habitual constipation,
In Organic Diseases resulting from fatty
degeneration,
To remove the consequences resulting from
excess in diet, &c.

Proletors of this Natural Spring of Laxative Water are desirous of bringing the leading features before the Medical Profession. The advantages
cribed are, that it contains a larger amount of valuable active aperient solids than any other bitter water previously in vogue with the public,
cribed by the faculty, and notwithstanding its rapid action as an aperient, it produces no uneasiness in its effects. It will be seen from the
cal of (below) of eminent Professional Chemists of England and the Continent, that this water contains nearly double the amount of Magnesia
n another Bitter Water, hence it is entitled to be distinguished as a "SPECIFIC MAGNESIUM BITTER WATER."

	Analysis of Prof. H. E. ROSCOE, F.R.S., Owens College, Manchester.	Special Analysis of Prof. M. BALLO, Chemist of the City of Budapest.	Analysis of Dr. G. L. ULEX, Official Chemist of the City of Hamburg.
ESTIM SULPHATE ..	32.8107	32.3800	33.60
M S PHATE ..	17.1693	20.9540	19.55
SIU SULPHATE ..	0.4407	0.3105	1.28
UM LPHATE ..	2.3304	1.6020	1.33
M C LORIDE ..	1.7708	2.2431	2.28
M C ARONATE ..	1.1884	0.4980	2.10
INA ..	0.0108	0.0229	0.3
..	0.0587	0.0444	0.6
HOY ACID ..	Trace	Trace	Trace
AY TOTAL SOLUBLE ..	55.1798	58.0549	60.23
NTENTS ..	55.7250	58.156	
Do. FOUND ..			
100 G. QUITY AT 17°C.	1.0534 AT 17°C.	1.05362 AT 14°C.	1.055

Soluble Constituents and Sulphate of Magnesia in
"Victoria Bitter Water," as compared with
other Mineral Waters.

	Soluble Constituents.	Sulphate of Magnesia.
VICTORIA Bitter Water	55.77	32.87
Rákóczy	53.53	23.06
Franz Josef	52.29	24.78
Hunyady László	51.07	24.20
Hunyady János	41.73	18.44
Königsbitterquelle ..	37.55	16.68
Elisabeth	26.29	8.04
Püllnaer Bitterwasser ..	32.72	12.12
Friedrichshaller	25.29	5.15
Saidschützer	23.21	10.96

Retail Prices:—Litres, 1/6 per bottle; Half-Litres, 1/- per bottle.

as a free and contain either 25 Litre Bottles or 50 Half-litre Bottles. May be obtained of any Chemist or Patent Medicine Vendor in the United Kingdom.

"VICTORIA" NATURAL BITTERWASSER OF BUDAPEST, HUNGARY.

Wholesale Depot for England and Colonies:—24 & 25 Hart Street, Bloomsbury, London, W.C.

THE MONTSERRAT COMPANY, LIMITED,

LIME-FRUIT
JUICE.



LIME-FRUIT JUICE
CORDIALS.

ALL GUARANTEED FREE FROM ALCOHOL.

THE MONTSERRAT LIME-FRUIT JUICE,

In Imperial Quarts, Retail, 2/6 each, 22/- doz.; Imperial Pints, Retail, 1/4 each, 12/- doz.

(In bulk, 4/- per gall., or 12 galls. 3/6 to account. Special quotations for casks on application.)

MONTSERRAT LIMETTA, OR PURE LIME-FRUIT JUICE CORDIAL,

In Bottles, Retail, 1/6 each, 14/- dozen; Half Bottles, Retail, 1/- each, 9/- dozen.

AROMATIC MONTSERRAT,

This is made from the Montserrat Lime-Fruit Juice, combined with Aromatics.

In Bottles, Retail, 1/9 each, 17/- dozen; Half Bottles, Retail, 1/- each; 10/6 doz.

MONTSERRAT CLOVE CORDIAL,

MONTSERRAT JARGONELLE CORDIAL,

MONTSERRAT PEPPERMINT CORDIAL,

MONTSERRAT PINE-APPLE CORDIAL,

MONTSERRAT RASPBERRY CORDIAL.

The above are so flavoured, as indicated, as to form most agreeable and refreshing Beverages, either alone or dilute with water, and especially Aërated Waters. They can also be blended with Spirits. In Bottles, Retail, 2/- each, 20/- dozen.

MONTSERRAT QUININE CORDIAL.

This is a combination of pure Quinine and Montserrat Lime-Fruit Juice cordialised by the addition of Aromatics. It is cheaper than Quinine Wine. In Bottles, Retail, 2/- each, 20/- dozen.

MONTSERRAT SARSAPARILLA CORDIAL.

Prepared with Montserrat Lime-Fruit Juice and finest Jamaica Sarsaparilla, so combined as to contain the full medicinal qualities of both. In Bottles, Retail, 2/- each, 20/- dozen.

MONTSERRAT LIME-FRUIT BITTERS,

Prepared so as to maintain all the well-known fragrance of the Lime Fruit, and forming a splendid Tonic Bitter.

MONTSERRAT LIME-FRUIT JUICE SAUCE,

Of rich flavour, freshness, and piquancy. In Bottles, Retail, 1/- each, 10/6 per doz.

As a protection against imitations, our Trade Mark (as Sole Consignees of the Montserrat Company, Limited), as on the Capsule and Label of each Bottle of Lime-Fruit Juice and its Preparations.

EVANS' LEMON JUICE,

Bottles (6 to the gallon), Retail, 1/3, 10/6 dozen.

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SOLE CONSIGNEES OF THE MONTSERRAT COMPANY—

EVANS, SONS & CO., LIVERPOOL; EVANS, LESCHER & WEBB, LONDON;

H. SUGDEN EVANS & CO., Montreal, Canada, and Rouse's Point, NEW YORK

the High Court of Justice.—Queen's Bench Division.

FARINA v. BRITTON,

Report of Trial at the Guildhall, on Thursday, March 30, 1882, before Mr. Justice Field and a Special Jury.

(Reprinted from THE CHEMIST AND DRUGGIST, April 15, 1882.)

the Queen's Bench Division of the High Court of Justice at the Guildhall, on March 30, 1882, before Mr. Justice Field and a special jury, the libel case of "Farina v. Britton"

Mr. Bizard, Q.C., and Mr. Channell appeared for the plaintiff, who carries on business as a manufacturer of eau de Cologne at No. 4 Julichs Platz, Cologne, and Mr. Badd, C., and Mr. Bremner appeared for the defendant, who is the publisher of the *Daily News*.

Mr. Bizard, addressing the Court, said:—You are probably aware there is amongst the manufacturers of eau de Cologne, in Cologne itself and elsewhere, a considerable rivalry. Eau de Cologne was, I believe, originated as far back as 1699 by a gentleman of the name of Johann Maria Farina, who claimed to be the original inventor of this valuable perfume. Before his death the business was carried on by the Farina family without much rivalry, I believe, until the close of the last century. After that date the Farina family was, to some extent, split up, and my client descended from one of the elder branches of that family.

Mr. Justice Field: Johann Maria?
Mr. Bizard: Yes, my lord: that my client is the descendant of the Johann Maria Farina there is no doubt. There is no other person, if not more, in Cologne itself who is descended from the same common stock. The plaintiff cried out and had the monopoly of this manufacture, I think, until the close of 1782, or something of the sort. After that date several of the descendants tried to run an independent business in manufacturing the perfume. There are two great rival houses in Cologne—the house of my client, who carries on his business, as I am told, at No. 4 Julichs Platz; and a gentleman of the same name, also Johann Maria, who carries on business at Obenrampforten Strasse, No. 23, under the trade mark "Gegenüber dem Julichs Platz." Those are the two main Maria Farinas to this day carrying on business in Cologne, and they both manufacture eau de Cologne of the first quality.

My client has been in business since 1855. And I may say that my client's predecessor in title exhibited in the exhibition of 1851, and obtained honourable mention there, and obtained various first-class medals at various international exhibitions held since that date, and he is the purveyor of eau de Cologne to a very great number of European courts, and amongst others to the Prince and Princess of Wales. I give you this slight sketch of my client's career in his connection with the eau de Cologne business in order that you may understand that this is not any "mushy" business, but the business of a gentleman manufacturing genuine eau de Cologne, and having a large sale in this country and throughout the world, but being in rivalry with a person who bears the same name as himself.

Frequent litigation, I believe, has taken place between the two houses, resulting invariably in the success of my client, and only three years ago, before Vice-Chancellor James, my client was attacked in our Courts as not being a genuine descendant of Johann Maria Farina, and an attempt was made to prevent him from using the arms of his family on a certain label. That suit was decided in favour of my client, who is the plaintiff in this action.

Now, gentlemen, in April last the *Daily News* thought to write an article, which it headed "Trade Marks," but which I think you will say by your verdict looks very much like an article prompted by the rival Johann Maria Farina at Julichs Platz, because, although it purports to be an article about trade-marks, after a very few remarks about the Trade Marks Act, there is some half or three quarters of a column set up, which is the libel of which my client Johann Maria Farina, of No. 4 Julichs Platz, complains in this action. I do not think I need read the in-

troductory portion of the article; but I will read the libel of which we complain, and when you have heard it I think you will have no doubt whatever that it is a label of a very serious character, conveying a most serious imputation upon this gentleman as a manufacturer of eau de Cologne, and calculated, if not intended to do so, seriously to injure his business and to puff the business of his rival. It begins in this way:—

Setting downright forgery aside, it is to be feared that the tendency of human kind to sail very close to the wind is likely to provide trade-mark litigation for some time to come. If it could be thought that the tendency to imitate other people's labels and signs sprang only from the poverty of human invention, the brilliant display on the walls of our railway stations would encourage the most determined pessimist to hope for better things. But, unhappily, there is only too much ingenuity of a kind.

Here is an insinuation of dishonesty on somebody's part:—

Probably no story can be told more humiliating to human dignity than that of eau de Cologne and its manufacture. No sooner had that agreeable essence acquired a reputation than the imitators went to work and displayed such skill that it is doubtful whether one woman in a hundred, of those who use it, could pass an examination in eau de Cologne labels and bottles. Let us look at two bottles, one of the manufacture known "in the trade" as "the genuine," and the other, which is said to be quite as good, and sold almost everywhere, but confessed by the most respectable retailers not to be genuine.

That is a most serious charge against my client—that his eau de Cologne, though they put in the *sop* that it may be as good as the other—is "confessed by the most respectable retailers not to be genuine." It seems to me much like saying that if there are two brands of champagne, and one is champagne and the other is made at the East-end of London out of petroleum, that the one is just as good as the other!

The "genuine" is also called "gegenüber," and the other "No. 4"; in shape and make the bottles are identical. The throat of each is garnished with a wrapper marked with three black stripes, and the body of each is nearly covered with a broad label, with a broad black stripe and a narrower line inside it; at top and bottom "Johann Maria Farina" is written in apparently the same handwriting on both labels, and both have that flourishing *parafe* which to foreign formal signatures adds somewhat the effect of our ejaculation "my act and deed." Like the "genuine," the other eau de Cologne [that is my client's] is *signée et parafée* "with a vengeance."

I do not know what he means by that, because, when you look at the two labels, which you will do shortly, you will see that the label on my client's eau de Cologne is a very mild production indeed, compared with the other:—

And to eyes less keen than those of an experienced hanker's clerk the bottles, the labels, and the flourishes are identical.

When you look at the bottles I think you will see that that is a most gross exaggeration.

But to practised vision it becomes evident, after a while, that the "genuine" label has a very narrow white border outside of the black enclosing lines, while in "No. 4" the black comes quite to the edge—that the "genuine" has an eagle in its escutcheon absent from that of its rival—that between the escutcheon and the signature are two dots outside of two dashes, also absent from "No. 4," and that on the "genuine" label three dots are inclosed in the *parafe* itself.

The word "genuine" is in inverted commas.

When all this is mastered, appears the very obvious difference of address. That of the "genuine," as it is called, commercially, is *gegenüber dem Julichs Platz* while the other bears merely *Julichs-platz* No. 4. There is also a difference in the signature. The "r" in the "genuine" Farina, not in the Maria, but only in the surname, is reversed and looks like a "z," but its rival may not use this German current "r." Yet the similarity of effect in the bottles and labels would deceive all uneducated and many highly-educated persons. No modern trade-mark tribunal would sanction anything like this, but of course the imitator could now plead "user" anywhere.

On that point I ought to say that in 1875 an Act of Parliament was passed for the registration of trade-marks. That Act came into operation, I think, on January 1, 1876, and within 11 days of that time my client registered his trade-mark, which had been in use, then, I think, for some 35 or 40 years in this business, and, of course, no objection was taken, or could be taken, to it. It is unquestionably

the trade-mark which he is entitled to use; and there is no pretence for saying that he is not, or that he is the imitator of the trade-mark which has come down to him, otherwise than properly; and the statement that "the imitator could now plead 'user'" is utterly unjustifiable.

But Johann Maria, of No. 4, is not the only claimant—

That word strikes me as being very injurious, when the gentleman is descended from the original—

is not the only claimant to the odouriferous honours of the Farina family. There are so many Farinas in the field that one is almost tempted to believe that the inhabitants of the Continent are not unaware of the "Barnstaple trick," as it is called in the West of England.

Mr. Justice Field: Mr. Waddy can tell us all about that.

Mr. Waddy: Do not ask us what we have suffered from!

Mr. Buszard:

The Barnstaple trick has long been used at municipal, and perhaps other elections, and consists in finding a man of the same name as the opposition candidate, and bringing him forward for election, to the confusion and bewilderment of the true Amphitryon and the bewilderment of voters.

He, you know, is the gentleman who was personated on an unfortunate occasion! Immediately after commenting on this, and calling the one genuine and the other not, we are charged further with trying the "Barnstaple trick."

As the pirate whose name was Coats attempted to capture the label of that firm, so many enterprising distillers of essences have hunted round for a man named Farina, in whose name their craft might prevail.

That means to say, I presume, the name of Farina was required for the purposes of craft.

There are more Farinas than two in Köln itself, and most certainly one Antonio, who decks his bottles with gaily-coloured printed labels resembling in no kind of way the rivals of the Julichs Platz. There is also a maker in Turin named Johann Maria Farina, whose labels are almost identical with those of the "genuine," only that the "I. M. F." becomes "J. M. F.," the curl being added to the "J," and that *Zur Stadt Turin Hochstr. No. III.* replaces the talismanic *gegenüber dem Julichs Platz*. But the quality of paper, the type, and the very words of the advertisement-wrapper are exactly copied, and it is printed in German and in French. Now German is hardly the language of Piedmont, where Italian, not "very choice," it is true, but Italian of a sort, nevertheless, is spoken. The Italian establishment is assumed to date from 1763, while the "genuine" dates from 1709, so that there is no question even raised as to who is the imitator who sails so very close to the wind.

Meaning by that, I suppose, that though this foreign gentleman, by putting a date, put the matter beyond doubt, No. 4 is an imitator sailing very near the wind.

The fear of Heaven is apparently not very present to the copyist of business emblems, who hopes to escape the curse laid upon him who removes his neighbour's landmark, a crime to ordinary minds very like that of imitating a trade-mark.

That is the libel of which we complain, and we say that that libel—

A Juror: We should like to read the libel in the newspaper for ourselves.

Mr. Justice Field: You shall presently, but not yet, sir.

Mr. Buszard: You will have that presently. That is the libel of which we complain, and we say that that libel can have but one meaning—that the plaintiff is the manufacturer of eau de Cologne that is not genuine, and that it is inferior to the manufacture of the other gentleman who trades under the brand *Gegenüber dem Julichs Platz*, and it also means, we say, that the plaintiff has fraudulently imitated the other's mark for the purpose of deceiving customers, and gaining custom for an article which he ought not to have, and which is not genuine. That is what we say this article means. It is for you to say if you can attach any other meaning to it. If it contains that meaning—and it seems to me it can have no other—why then it is a most serious libel on this gentleman who now asks damages at your hands. What do they say in answer to this? They say it does not mean what we say. If it does not mean that, perhaps they will tell us what it does mean, but if you take it as a whole I think you will say that anyone who understands the English language cannot put any other construction on it. And then they say that the said article was published *bonâ fide* without malice, and was an article fairly

commenting, in a public journal, on a matter of public interest and concern, and that the publication is a libel. No doubt the subject of trade-marks is a matter of considerable public interest, and a subject which is well worthy of discussion, but I submit to my lord, and to you, that there can be no privilege for such an article as this, the effect of which is simply to puff up one manufacturer's goods and to depreciate another's.

We had no idea of bringing an action against the *Daily News*. We were desirous of ascertaining who it was that put this false and fraudulent prospectus of Johann Maria Farina's house before the world, and we asked them to tell us. Of course they were perfect in their right in refusing to tell us; but if they do tell us to-day, and show us where the article emanates from, then you will say, looking at the article as a whole, that it does very much as if, if not written by, it is at any rate inspired by somebody belonging to a rival house. We pointed out to them the dishonest and serious nature of what they had written about us, and they so far admitted the error in that they inserted another paragraph in the paper. That paragraph I will read to you, and having read it to you, I will ask you whether it does not strike you that it is an aggravation of the original libel—that it repeats all the offensive insinuations as to our being the vendor of a non-genuine article, and makes the original libel worse than it was before. But, at any rate, it shows that by inserting it they knew they had done wrong, and they had no manliness to say, in a straightforward way, they were sorry to withdraw what they said, but they put in an article which goes to show that they thought they must modify what they had said, though they had not the manliness to say they ought to have done. The original article was in type. This article is put in in a paragraph in the Cologne. It says:—

Some remarks in our impression of April 16 appear to have been construed by Mr. Johann Maria Farina, of No. 4 Julichs Platz, as an attack upon the genuineness of his manufacture. He appears to be some misapprehension as to the tendency of our contributor's remarks. It is the similarity of two trade-marks which is commented upon, not the difference of quality in the goods supplied. Our contributor is informed that "in the London trade," the distinction of "genuine" is confined upon the "gegenüber" brand, but that the "No. 4, Julichs Platz," brand fetches equal prices, and is held to be equally good by many customers. When he applied the term "genuine" to one followed by "short term" in use in the trade, and by no means impugned the quality of "No. 4." The two perfumes are used indifferently by most everybody. There is no question of comparative excellence. The differences of trade mark were made the subject of comment, without imputation on the good faith of either manufacturer.

Is it possible for anyone to read the article which I have read to you without seeing that it conveys gross imputations on the good faith of my client? My client says that he could not sit down under this imputation and say that the *Daily News* people had thought fit to refuse to give the name of the person who penned or inspired the article which was inserted, he was compelled to bring an action and to ask a jury for damages. We all know that the *Daily News* has a very large circulation, not only in this country but on the continent of Europe and in the Colonies, and it is difficult to estimate the damage which an article of this sort, going forth to the whole world, with which Mr. Farina deals, may cause him, because he is a traveller of the rival house now to do? What I have to do is simply this: When he is dealing with chemists in Cologne, who are selling No. 4, all he has to do is to go into the shop and say, "What, do you sell No. 4 Cologne? Why, it is not genuine. You are selling spurious perfume. Have you read this article?"

It is very difficult to estimate exactly in money at present the result of what has happened in the case of the agent for the No. 4 eau de Cologne will tell you that whereas the average sale for the last six years or so has been 7,141*l.*, in 1881—this article appearing in April—the sales amounted to only 5,996*l.* It is fair to say that sales have varied during the course of those six years, and in 1879, we all know, was a bad year for every suppose, when trade is had people do not in the luxury of eau de Cologne so much, and it is fair to say that in that year it was about the same amount, viz., 3,141*l.*

1880 rose again to 6,538*l.*, and in 1881 it falls to 5,996*l.* The business in the United Kingdom is but a very limited one. Mr. Farina's business. In several countries of Europe, believe, he has almost a monopoly, and gegenüber de Cologne is not so well known, but in the Colonies, as his country, they are rivals. The result of this article is an admission for uncontradicted must be very much to enhance the value of the "opposite" house, and to damage my opponent's, and it is for this that he asks damages at your expense.

Mr. Justice Field: Shall I now show you, by calling before you some of the largest manufacturers in this city, in reference to this article—members of the firm of Maw, Son & Thompson; Hodgkinson, Stead, Leach; Dent, Allcroft & Co.; Warriek Brothers, and a variety of other gentlemen, that they have sold this eau de Cologne in their business for years?

Mr. Justice Field: There was no justification pleaded, was there?

Mr. Board: No, my lord, there is no justification whatever for the allegations made in this article, and I am anxious to know what is the defence set up by them.

Mr. Joann Maria Farina sworn. Examined by Mr. Board.

Q. Are you the plaintiff in this action?—Yes.
Q. Are you a manufacturer of eau de Cologne, carrying on business No. 4 Julius Platz, Cologne?—Yes.

Q. Have you carried on that business since the year 1855?—Yes.

Q. Was your father in the eau de Cologne business before you?—Yes.

Q. Did your grandfather before him?—Yes.

Mr. Justice Field: In the same business?

Mr. Board: In the same business?—In the eau de Cologne business.

Q. At what was it first carried on at No. 4?—At No. 4.

Q. Was it for your time?—Yes, before.

Q. I believe the original manufacturers of eau de Cologne were Julius and Carl Hieronymus Farina, is that correct?

Mr. Board: Yes. I do not see how this can be evidence, or this gentleman can tell what happened a hundred years ago.

Mr. Justice Field: Well, he may be able!

Mr. Board: He may, my lord. I am not concerned with the matter.

Mr. Justice Field: You may take it that the article itself states the business dates from 1709.

Q. You found it a business?—Yes, I found it a business.

Mr. Board: You have there various documents connected with the business for many years past, if my friend wishes to see them?—Yes.

Q. Does your house had honourable mention at the exhibition of 1851 for your eau de Cologne?—Yes.

Mr. Board: I have nothing to ask.

Mr. Board: I will call Mr. Fickus.

Mr. Justice Field: The question of damage you are at liberty to put into. Mr. Waddy does not dispute this business of manufacture of eau de Cologne.

Mr. Board: Or that he made capital eau de Cologne, my friend, as good as any in the world.

Mr. W. Fickus sworn. Examined by Mr. Channel.

Q. Are you the English agent for the plaintiff for the sale of eau de Cologne in England?—Yes.

Q. How many years have you managed his English business?—Twenty years.

Q. On this, it is admitted, large sales of this eau de Cologne. Can you tell me what has been his average sales for the last five years?—Yes, I think from 6,000*l.* to 7,000*l.*

Mr. Justice Field: The average sale has been from 6,000*l.* to 7,000*l.* year in England?—In England.

Q. What is the average receipts?—Yes, my lord.

Mr. Board: I do not know whether you think this is sufficient until there is shown a connection with the article.

Mr. Justice Field: I do not think it is. As far as it goes to show the nature of the business, but you cannot go

further than to show the averages of the business. The jury will have to judge. They may say this article cannot apply to him, or it may be calculated to have a considerable effect on him.

Mr. Channell: Is it calculated to have an effect?—I think it is calculated to ruin us if this thing is allowed to go on.

Mr. Waddy: What thing?—Why, this libel.

Mr. Justice Field: That is your case, is it?

Mr. Buszard: I think it will be, my lord.

Mr. Waddy: There was a great deal which my friend opened which he has not gone into at all.

Mr. Justice Field: You were remarkably reticent, and I suppose Mr. Buszard hardly knew what you were going to say.

Mr. Waddy: I am waiting to hear how far my friend justifies the extraordinary suggestion that he made, that his article was communicated to the *Daily News* by the gegenüber people.

Mr. Justice Field: He cannot say that unless he sees your contributor. If he sees your contributor he can ask him the question. Perhaps he will never see him.

Mr. Waddy: Yes he will, my lord, if it is necessary.

Cross-examined by Mr. Waddy.

Q. As you have been in this trade for some time you can tell me, is it a fact that there are catalogues published by the large perfumers in this country?—Yes.

Q. Trade catalogues?—Yes.

Q. Are Hovenden & Sons large dealers in perfumery?—Yes.

Q. I am not going to say a word against the quality of your eau de Cologne, but, as a matter of fact in the trade, is it not the fact that the gegenüber has been called genuine for many years past?—I think it has been by ignorant people. They think that gegenüber is the German for genuine.

Q. However the ignorance may have arisen, is it, or not, the fact that in the trade for many years past in this country the words "the genuine" have been applied to the gegenüber?—Very seldom.

Mr. Justice Field: I do not see how your question bears exactly, Mr. Waddy. It does not follow that because some people call a thing genuine, and another thing anything else, it does not follow that it is a fact. I do not follow it.

Mr. Waddy: I have asked the question, my lord, because I am going to produce evidence on the subject, and am going to challenge it.

Mr. Justice Field: Let us go on.

Mr. Waddy: Will my friend give me the paper from which he is reading? Your lordship has not had the whole article before you.

Mr. Justice Field: The time will come when you will give me the whole. Let us go on in the ordinary way, and ask this gentleman the questions you have to ask him, and then hear what Mr. Buszard has to say.

Mr. Waddy: Is it the fact that the gegenüber has been known in the trade as the genuine?—Certainly not.

Re-examined by Mr. Buszard.

Q. That is not so?—No.

Mr. Buszard: Now that my friend has asked that question, I must call some of my other witnesses.

Mr. John Thompson sworn. Examined by Mr. Buszard.

Q. You are a member of the firm of Messrs. Maw, Son & Thompson, of Aldersgate Street?—Yes.

Q. And have had long experience in the trade?—Yes.

Mr. Justice Field: As what?—We are dealers in druggists' sundries.

Q. In Aldersgate Street?—Yes.

Mr. Justice Field: Yes, I know, and a very large firm it is.

Mr. Buszard: Is it the fact, Mr. Thompson, that the gegenüber brand of eau de Cologne is known as the genuine?—As one of the genuine brands, but not the genuine in contradistinction to any other.

Mr. Justice Field: Not as "the genuine"?—Not as "the genuine."

Mr. Buszard: I believe you deal in both gegenüber and No. 4?—Yes, and have done for many years, about 20 years at any rate with both.

Q. Have you seen the article that is complained of in this action?—I have.

Q. In your opinion is that article calculated greatly to injure the sale of No. 4 eau de Cologne?

Mr. Waddy: That, I apprehend, is a question for the jury.

Mr. Justice Field: Do you object?

Mr. Waddy: If your lordship pleases.

Mr. Justice Field: Because if you do not formally rise I take no notice of it.

Mr. Waddy: I beg your pardon, my lord.

Mr. Justice Field: I think you cannot ask it, Mr. Buszard. It is for the jury.

Cross-examined by Mr. Waddy: You know Hovenden's catalogue, of course, Mr. Thompson?—Yes, I know it.

I do not know whether there are many rivals, but just look in that catalogue. Is that catalogue well known to the trade?—Perfectly well known.

I see there are several Farinas there?

Mr. Justice Field: How can you make the contents of that catalogue evidence against Mr. Farina?

Mr. Waddy: I am going to prove—

Mr. Justice Field: What you are going to prove is another matter.

Mr. Waddy: I want to know from you, is it or is it not the fact that in the trade—not in that catalogue alone, but in the trade—there has been, rightly or wrongly, a distinction drawn between the genuine and the No. 4?—Would you allow me to put it in my own way, or am I to answer the question as put exactly?

Mr. Justice Field: You had better answer the question as put, and then explain.

It is rather difficult. If you would allow me to—

Mr. Justice Field: In the trade, you are asked.

Mr. Waddy: Is it or is it not the fact that in the trade there has been a distinction drawn, rightly or wrongly, between the genuine and the No. 4?—In some cases, no doubt, it has been so, and is so.

Mr. Justice Field: That is not the question, "in some cases"; but it is the question of the general usage of the trade.—I cannot answer the question truthfully without I preface it in this way.

Mr. Justice Field: If Mr. Waddy will allow you to do so.

Mr. Waddy: You shall say anything that you like as far as I am concerned.

What I have to say is this: it is perfectly well known in the trade, and has been certainly for the last 20 years, that the two leading brands of eau de Cologne in this market are the opposite and No. 4.

Mr. Justice Field: The two genuine brands?—The two genuine brands in this market are the opposite and No. 4. Gegenüber, you mean?—Yes, gegenüber and No. 4.

Mr. Waddy: You say for the last 20 years that has been known in the trade?—Perfectly well.

Very well known. Now I might ask you, is it not the fact that in the language of the trade, whatever they may have known, the gegenüber has been termed the genuine, and No. 4 has been called No. 4?—I should say, certainly not.

What is that you have before you, Mr. Thompson?—This is Messrs. Maws' catalogue of 1861, and I am looking to see the date when the two brands appear side by side.

Mr. Justice Field: You say, "This is my catalogue in which the two brands appear side by side.—Dated 1861.

Mr. Waddy: Is this the catalogue that is in force now?—Not the one in force now—oh no, it is issued now quarterly.

I do not quite understand what this represents to your mind?

Mr. Justice Field: That so far back as 1861 they are placed side by side as this catalogue shows.

Mr. Waddy: Before that time was a distinction drawn between them?

Not to my knowledge. I only go back as far as my personal knowledge goes. I have always heard them both called genuine.

As far as I see, you deal in two kinds of eau de Cologne?—Exactly.

And two only. Those are what I may call the opposite and No. 4?—Yes; we did that only for a certain time. Since then we have dealt in other brands.

Your production of that book is not to mark an epoch in the trade, but as far back as you recollect?—As far as I can speak positively.

Mr. Justice Field: Not as far back as he recollects, but as far back as the classification in his catalogue shows it. He

has always heard them both called genuine.—Long since this I know the brand No. 4 was perfectly well known to the trade.

And sold by leading houses?—Leading houses; and by first-class druggists before that.

Your business is very large, is it not?—Yes; doing almost all the leading chemists in the United Kingdom.

Re-examined by Mr. Buszard.

As I understand, that trade list is the earliest I can find?—I believe it is the first in which the eau de Cologne is put.

Mr. Justice Field: I have some difficulty about your plea, Mr. Waddy; we will not discuss it; but it seems to be bordering very much on justification. We will see, and by, after we have taken the evidence.

Mr. Waddy: I hope your lordship will not think I shall be able to draw a distinction. I shall endeavor to do so.

Mr. Justice Field: Evidence of facts may be shown to show the reverse. I do not say it is so, but it is, as you say, "sailing near the wind."

Mr. Robert B. Warrick sworn. Examined by Mr. Channell.

You are a member of the firm of Warrick Brothers of Swan Lane?—Yes.

And are large dealers in perfumes with the other branch in France?—Yes.

Mr. Justice Field: Are you large perfumers—large wholesale perfumers for many years.

Mr. Channell: Are you acquainted both with the number eau de Cologne and with No. 4?—Yes; for many years.

I believe you have a price list also—an old one?

Mr. Justice Field: The question is, what is known in the trade, not this gentleman's practice.

Mr. Channell: But I believe he goes to a much earlier date than the last witness.

I have not one prior to 1851 in which eau de Cologne is mentioned by name.

Mr. Justice Field: The only question admissible at this time is, whether one was known in the trade as "the genuine" as distinguished from the other?

Mr. Channell: I only want to see the extent of the gentleman's experience. You heard the question, that you say as between these two eau de Colognes, to one being known as the genuine as distinguished from the other?—My firm imported—

Mr. Justice Field: We do not want to know you actually but speaking of the trade generally.

Mr. Channell: According to your experience, it is the fact that one of these eau de Colognes, the one which is known as "the genuine" in contradistinction to the other eau de Colognes?—Oh, no.

Mr. Justice Field: To No. 4?—No.

Keep to No. 4. It is not the fact that in the trade the number is known as the genuine as distinguished from the other?—How many years back are you able to speak to?—I am able to speak as far back as the year 1846.

Cross-examined by Mr. Waddy.

Have you ever heard the word "genuine" applied to eau de Colognes at all?—There are many genuine eau de Colognes.

That is not what I ask you.

Mr. Justice Field: Answer the question.

I have heard it applied to many eau de Colognes. I have come across 13 or 14 men in the trade who call their eau de Cologne genuine.

Mr. Justice Field: What is the usage?—I have known any usage of calling one brand genuine more than another of these two brands.

Mr. Waddy: That is not quite an answer to my question, Mr. Warrick, please. What I ask you is this. Have you ever heard the name "the genuine" applied in the trade to any eau de Cologne?—I cannot answer the question in any other way than this. We frequently have orders for house for genuine eau de Cologne, and we would not book to see whether it referred to gegenüber or No. 4.

Mr. Justice Field: "If a customer applied for eau de Cologne, we should refer to our book."—The two would answer the description?—Yes.

If you sent me No. 4, and I brought an action against you or damages, you would say "that is quite as genuine as the genuine?"—Quite.

Mr. Hodgkinson, of the firm of Hodgkinson, Stead & Leche of Upper Whitecross Street, wholesale and export druggists, was examined by Mr. Buszard.

I believe that your firm have very large dealings with Cognac and other articles?—We sell a great deal. Is the one usage known in the trade by which genuine Eau de Cologne is called the "genuine" and the other No. 4?—No.

Mr. Waddy: I do not ask you anything.

Mr. Buszard: That will be my case.

Mr. Buszard then handed in the copy of the *Daily News* containing the alleged libel, the certificate of the registration of the trade-mark, and a copy of the correspondence which had passed between the solicitors for Mr. Farina (Messrs. Thompson, Son & Brooks) and the manager of the *Daily News*. The explanatory paragraph inserted in the *Daily News* on May 31 was not considered satisfactory by Mr. Farina's solicitors. They said "such paragraph is not satisfactory: it repeats the objectionable imputation and aggravates the original libel. Our client requires the name and address of the contributor of the article in question, which was evidently inserted by a rival house, with a view and he had the effect of, seriously injuring his business." The manager of the *Daily News* declined to give the name of the contributor, and contradicted the insinuation that the article had been inserted at the instigation of any rival house, but offered to give his best attention to any further paragraph which might be suggested on behalf of Mr. Farina. The solicitors then, with much reluctance, announced that they were instructed to commence proceedings against the *Daily News*.

After reading the correspondence, the Court adjourned for a short time.

On remanding,

Mr. Waddy, addressing the Judge, said: My lord, my task would have been easier if it had not been for something which my learned friend said, and which I misunderstood. Probably, but which others also in Court, I believe, misunderstood to intimate something with regard to the *Daily News* while I am sure, my learned friend would be the first to ask me to let him repudiate; and that was, that it was a libel in a newspaper in the position of the *Daily News* as acted by a rival house.

Here are expressions in this article which, from the very nature of them, I am my friend, and those who instruct me, felt it was impossible to justify, and there has never been an attempt made to justify them; but, before I proceed to say that I shall be quite satisfactory to my learned friend, I ask your lordship will consider I am entitled to say in plain English exactly how this happened.

My lord there was a gentleman, who would have been in the box if necessary, who was an old contributor of the *Daily News*. This is not a leading article, but one of the separate articles which my learned friend has seen, it occurred to this gentleman that he would write an article on trade-marks, and so he did; but my learned friend said—I am finding no fault with him—read that part of the article referring to his part of the case alone; but, in the next part, that part of the article begins down there (pointing); the whole of the earlier part in your lordship's articles not half so pleasant—I do not know, but by being about beer—it is difficult to settle, perhaps, which is the pleasanter!

Mr. Justice Field: And "Barnstaple"?

Mr. Waddy: No, Barnstaple is part of my learned friend's speech that comes lower on, the savoury part of the case. It happened was this: being an article in the *Daily News* by an old contributor, and so recognised, this article, which in its form should not have been inserted, passed the ordinarily vigilant eyes of the editor, and was inserted when it should not have been. That is the whole of the matter. The fact is, the gentleman who wrote the article need not blurt out his name here, for my friend knows now—I believe, he gave information to this effect, which

I am not going to set up, mind, that although the two kinds are very much alike, and you might mix them, I believe, and not find out the difference; yet, at the same time, there is one known in the trade as "genuine," and one known as "No. 4." That is the point of the article; whether well or ill expressed, I do not pretend to say, and if you look at it you will see that "genuine" is in inverted commas. That I do not seek to maintain, because, although I had a body of evidence to show it was so, I must show that it was so in the trade, and after the evidence given by Mr. Thompson and Mr. Warrick, and others of experience, it would require more courage than I possess, and I could not ask the jury to say so.

I give now, on behalf of the *Daily News*, that which from the first were prepared to do, if we had not thought that there was a suggestion that the *Daily News* was lending itself to that which it has been hinted it was. I am authorised to say that while they consent to a verdict for an amount which your lordship will easily guess, with the costs which will follow, we regret, and are sorry that the article should have appeared at all. Sufficient attention, we say, was not given to the statement in the article, which is explained by the fact that this appears to be given by, and to have proceeded from, an old contributor, and that is the explanation of the whole circumstances—that there was a misunderstanding between the officers on the *Daily News*, and for it, and for the appearance of this article we express our regret. I think that is all my learned friend can wish.

My learned friend wishes me to say something about the trade-mark. With regard to the trade-mark, that may be or may not be similar; that is a matter for anybody to judge of who looks at the bottles with his own eyes, and it is not for me, or for the *Daily News* to express an opinion about it, but it is sufficient for me to say that I desire at once to withdraw any notion that it is a fraudulent imitation of one trade-mark by the other. If I must express an opinion, I should say that it is very likely these two came down from a common source, but on that I express no opinion, and we desire to withdraw any notion that there was an intention to pirate any mark at all.

Mr. Buszard: After the handsome apology which my friend Mr. Waddy has made, on behalf of Mr. Farina I wish to say that he has not brought this action in any way in a vindictive spirit. He was very desirous not to sue the *Daily News* if it could be avoided, and he has not brought an action to make any profit out of it. All he requires he has now obtained, namely, a verdict which has cleared him from the imputation which this article seemed to convey, that he was not selling a genuine article, and I certainly did not intend to say, nor did I say, in opening the case that the *Daily News* had willingly lent itself to an opposite house. I shall be in the recollection of your lordship and the jury—what I intended to say was, that what had slipped into this article might be used by a rival house, and it was in consequence of the high character of the *Daily News* that Mr. Farina thought it necessary to bring this action.

Mr. Justice Field: I think the plaintiff was justified, and not only justified, but as an honest man of business was bound to bring the action. I must say in the whole course of my life I never heard a more frank and clear statement made than that which has been made by Mr. Waddy. He has explained how it has happened, and accidents will happen. The handsome withdrawal made is just what I should expect from the publisher of such a paper as the *Daily News*.

Mr. Buszard: Your lordship will give judgment and certify for a special jury?

Mr. Justice Field: Certainly.

Mr. Waddy: Perhaps I might say that whatever damage has been sustained from the article in the first instance may, I hope, be more than recompensed them by what my friend has said, and what I have said too.

Mr. Justice Field: No doubt they will make you a handsome present. I should like to see the bottles.

Mr. Waddy: I was going to say I do not think you would be entirely master of the case unless I sent your lordship up both bottles to keep. I could not do it before, but I may do it now.

The bottles were handed to his lordship.

Notice to the Trade

GENUINE EAU DE COLOGNE

MANUFACTURED BY

JOHANN MARIA FARINA

JULICH'S PLATZ No. 4,

A DESCENDANT FROM THE

Original Manufacturer of this Valuable Perfum

IS KNOWN THROUGHOUT THE WORLD AS

No. 4,

AND SOLD BY ALL THE LEADING WHOLESALE HOUSES

In 2 oz. Bottles.

In 4 oz. Bottles.

In 6 oz. Bottles.

In 8 oz. Bottles.

In reputed ½-Pint, Wickered.

In reputed Pint, Wickered.

In reputed Quart, Wickered.

In 4 oz. Bottles, Wickered.

And also in Pocket Flasks.

JOHANN MARIA FARINA

JULICH'S PLATZ No. 4,

COLOGNE-ON-THE-RHINE.

By Special Appointment to the Prince of Wales and to several Imperial and Roy Courts

Possessor of the PRIZE MEDALS of the Exhibitions at LONDON, 1851; NEW YORK, 1853; LONDON 1862, 1865; CORDOYA. (Argentine Republic), 1871; and at VIENNA, 1873; SANTIAGO (Chile), 1876; PHILADELPHIA, 1876; CAPE TOWN (South Africa), 1877 (the only Gold Medal); and SYDNEY, 1882.

Sole WHOLESALE Agents for the United Kingdom and Colonies,

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CAUTION.

BUSH & CO. regret having to caution the trade against spurious imitations of this article, most of which being mere rubbish.

GUM EXTRACT

(French Cream),

PROTECTED BY ROYAL LETTERS PATENT.

Producing a Permanent Head of Creamy Richness on Beer, Ginger Ale, Lemonade, and other Aërated Beverages; also on Beers, Ciders, Wines, &c.

2s. 6d. per lb.

WORKERS AND VENDORS OF EFFERVESCING DRINKS, AND TO THE PUBLIC GENERALLY.

High Court of Justice—Chancery Division—on Thursday, 10th, 1880, before Vice-Chancellor Sir C. Hall, an application in the action of Bush v. Young to commit the defendant for disobeying an injunction whereby he had been restrained from imparting, or publishing a recipe, which is an infringement of certain patent known as "Gum Extract," the property of which, which is used in the mineral water trade for giving a head or foam to ginger beer and other beverages; the defendant published and sold a recipe for the preparation of the compound under the name of "Compound Fluid of Saphaca" for the same purpose. The defendant resisted on the ground that the bark used by him was not the same as that used by the plaintiff, being known as "Panama Bark."

The plaintiff, however, proved that this was in fact the same, and the defendant was granted the injunction. The defendant also threatened to publish a recipe unless it were bought up by the plaintiff. The plaintiff made an order that in default of defendant paying the costs of the proceedings should stand committed to prison.

Notice is hereby given that any person infringing the above patent, either by selling or using, or procuring to be sold or used, or who gives information of infringement will be liberally rewarded.

W. J. BUSH & CO.,

Distillers and Importers of

Essential Oils & Fruit Essences,

SPECIALITIES FOR AERATED WATER AND CORDIAL MANUFACTURERS,

ESSENCE LEMON,

EXTRA SUPER QUALITY,

The ONLY PURE ESSENCE imported, made at our Works at Sicily.

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For Winter Drinks.

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FOR BITTER WATER.

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SOLUBLE ESSENCE GINGER.

SOLUBLE ESSENCE OF PEPPERMINT.

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NONE OTHERS ARE GENUINE.

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23 ARTILLERY LANE, BISHOPSGATE, LONDON.

Packed in 1, 2, and 5 lb. bottles.

Price 4s. 6d. per lb. net, including bottle.

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THE MOST PERFECT NON-ALCOHOLIC BEVERAGE.

TRADE

Vin-Sante

SWEET AND DRY.

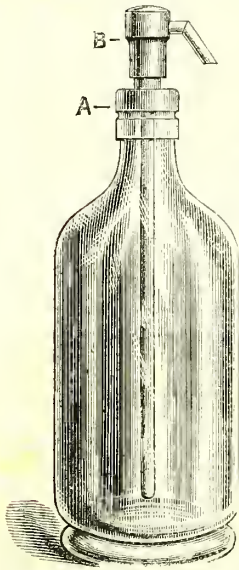
CONTAINS HYPOPHOSPHITES OF IRON, LIME, SODA, AND POTASH.

In Champagne Quarts, retail, 10/6 doz.; Pints, retail, 6/6 doz.; Half-pints, retail, 4/- doz.

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VALLET'S PATENT IMPROVED STOPPERED BOTTLES,

Fig. 2. For Mineral Waters and Gaseous Liquids,
Are now used by upwards of 900 Soda Water Manufacturers
in the United Kingdom.



PRICES (Per Gross).—Patent Stopper, as per Fig. 1, 4/6; ditto, as
Fig. 3, 4/6; ditto, as per Fig. 4, 4/6; Patent Stoppered Bottles, ready
for use; ditto Half Bottles, ditto; Patent Unstoppered Bottles; ditto
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fitted with rubbers, 10/6; Common Wood Bottle Openers, 5/6; ditto,
fitted with rubbers, 7/6; Fig. 10, New Bottle Opener, 6/-.

ROYALTY FREE.

Fig. 1.

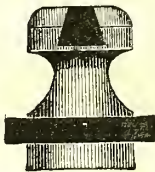


Fig. 3.

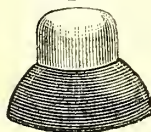


Fig. 1 Stoppers, when invoiced separately, are ready fitted
washer on, and are easily inserted into the Bottle by the simple
thumb, the washer at the same time folding in the hollow
when passing into the Bottle. It is the only Stopper which re-
fit the Bottle with; and when a Bottle breaks, which seldom oc-
curs, the Stopper is always fitted with this washer, ready to be inserted in a new
it is the most durable and inexpensive Stopper in the trade.

ADVANTAGES.—These Stoppers cannot break the Bottles
surface of indiarubber ever exposed to the liquid of any
Stoppers are inserted without trouble. No extra cost for Bottles
are cheap, very durable, and particularly clean. The Filling
expensive, and quick in action. Any Filling Machine, however
Patentee guarantees the Stoppers perfect gasholders, there-
possible. That Bottles may be opened, with or without a
pressure of the finger.

NOTICE TO THE TRADE.

It having come to my knowledge that certain parties con-
great and acknowledged superiority of my Patent Stopper, ha-
theirs so as to constitute a clear case of Infringement upon my
to be known that I intend to take such steps against the said
desirable, should this notice be effectual.

Sample and Particulars sent on application

L. VALLET, 49 EVERTON RD., LIVERPOOL.

INDEX TO ADVERTISEMENTS,

See Pages 21, 22.

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International Food Exhibition, Agricultural Hall, London, October, 1880.

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(Guaranteed Pure and Free from Capsicum).

Trade Price, 5s. per lb.; 12 lbs. and upwards, 4s. 6d.

Highly adapted for the manufacture of *Transparent Aërated Waters*, and for all *Dietetic, Medicinal, and Pharmaceutical* purposes.

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THE COMPOUND ESSENCE

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This Essence, which is an addition of VANILLA, LEMON, and OTHER FLAVOURS to the above, is strongly recommended for the
manufacture of Ginger Beer, Wines, &c., to which it imparts with the Ginger a Peculiarly Fine Fruity
Flavour and Aroma.

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Specially adapted for the Manufacture of the FINEST

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This Essence is strongly recommended for the manufacture of the finest Ginger Ale and Ginger Beer. It imparts, with the
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HAY'S GINGER ALE ESSENCE,

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This Essence is a complete Bouquet of the finest Ginger, Lemon, and other flavours, in a highly concentrated state.
Ginger Beer and Ginger Ale made with this Essence will possess an amount of Aroma, Flavour, and Quality
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SOLUBLE ESSENCE of JAMAICA GINGER

Of superior quality and guaranteed purity. Trade price, 4s. 6d. per lb., net cash.

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This ESSENCE is considered by all who have used it to be the best and the cheapest in the market, costing a little over a farthing per dozen bottles. Trade price, 5s. 6d. per lb., net cash.

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Of superior flavour to the essential oil, for imparting to Lemonade and other Drinks the true flavour of Fresh Lemon. Trade price, 4s. 6d. per lb., net cash.

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EFFERVESCENT.

SALINE (EVANS'), EFFERVESCENT.—This preparation is a mixture, in definite proportions, of Howard's Chlorate of Potash, English Tartaric Acid, Bicarbonate of Soda, and a little Cane Sugar. The proportions of these ingredients are fixed, and always remain the same.

The peculiarity of this Saline is that the Chlorate of Potash, in the proportion of about 2 per cent. (really 1.9), is in a state of minute subdivision, with, at the same time, a slight excess of Tartaric Acid. The latter gives a pleasant sharpness to the effervescing draught, whilst the former seems to have almost a "specific" effect in bilious headache and a feverish system. Now, these two properties (the quantity of chlorate and an excess of acid) are difficult to

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The peculiar commercial feature is that Labels are printed with the full name and address of the chemist, with wording that he may suggest. To lessen expense, the bulk packages (tins of 14 lbs. and 28 lbs.) are

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without Alkali.
For GOUT,
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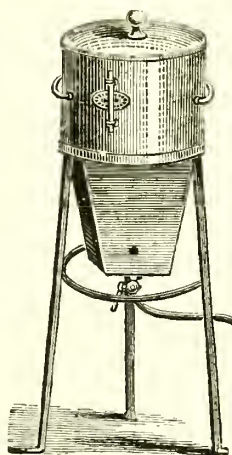
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For the clarification of all liquids, hot or cold,
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CLASS B.



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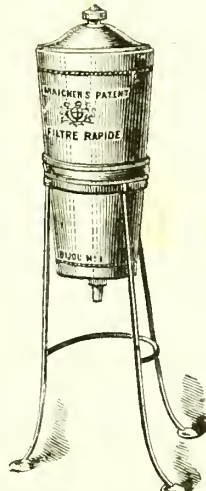
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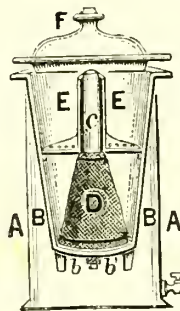


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From THE CHEMIST AND DRUGGIST, March 15, 1882:—"The two chief
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These WATER Filters
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It is an excellent adjunct to spirits in mixing, imparting a most grateful and improved flavour.

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Extract from "THE LANCET," May 8th, 1880.

"This is 'a real Luxury.' The genuine Lime flavour cannot be mistaken. Perfectly bright, it forms an excellent summer drink, either plain or aerated waters. It is needless to say that such a drink is very wholesome. It is highly popular with children, for whom, as well as for adults, it is very well suited."

In Champagne Quarts...	12/- per dozen.
In do. Pints	8/- per dozen.

Also in Bulk. Wholesale quantities, 4/6 per gallon.

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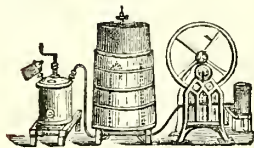
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Prize Medals—London, 1862, 1873, 1874; Paris, 1867, 1878; Vienna, Philadelphia, Cape, &c. Highest Award, Sydney, 1879-80.



Our Machines are universally adopted throughout the world for the manufacture of all kinds of Aerated Drinks, whether in bottles, syphons, or counter fountains. There are in England alone over 1,500 factories where our Machinery is in use. They are the simplest, safest, and cheapest for the purpose, and produce a highly-charged gaseous water free from metallic or foreign contamination.



All our Machines have a Gasometer, and it forms a most important necessity where purity of product is required, as in the gas is expanded and purified; it also removes the possibility of explosion, and avoids the necessity of complication—these we consider of greater importance than the saving of a few inches of floor space.

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"Samples are seen of the materials employed and the examination of these substances assists one in forming a high opinion of the articles produced, and of the certainty that purity and wholesomeness are fully maintained in every department of the manufacture."—*Sanitary Engineer.*

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The Medical Profession and other correspondents may be furnished with the Alkaline Strength of the Mineral Waters, and other important information, as well as detailed Analyses, Medical Commendation, Press Notices, Testimonials, and Scientific Authorities. See Analyses by Professors Wanklyn, Heisch, &c.

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etated at 5/6 per dozen, Champagne Pints (bottles included).

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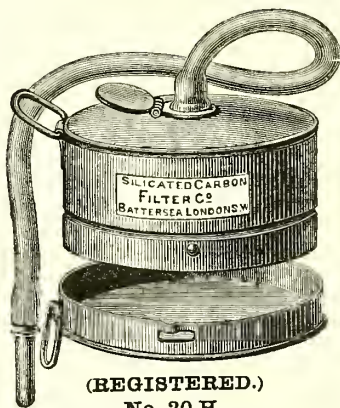
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IN GERMAN SILVER, NICKEL-PLATED.

Retailed at FIVE SHILLINGS each.

Designed by
MAJOR FRASER,
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ROYAL ENGINEERS,
especially
for Officers' Kits.
Weights only 8 ounces.



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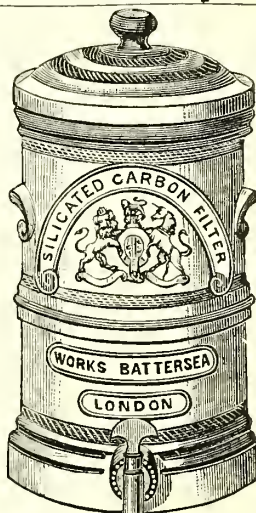
It has been approved
by the
Authorities at the
Horse Guards, and has
been largely
used in the Afghan and
Zulu Expeditions.

Sample sent free by Post on receipt of FOUR SHILLINGS.

DOMESTIC

Made in cream-coloured Stone-ware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap.

All sizes of this pattern can now be had with Ice Compartment, which renders this Filter the most perfect of Refrigerators.



FILTER, NO. 2.

PRICES.

				With Comp.
No. O, capacity $\frac{1}{2}$ gallon		10s.	6d.	
No. A, " 1 "		14s.	6d.	1 6d.
No. B, " 2 "		21s.	0d.	2 0d.
No. C, " 4 "		32s.	0d.	3 0d.
No. D, " 6 "		42s.	0d.	4 0d.
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No. F, " 12 "		70s.	0d.	7 0d.

MAIN SUPPLY FILTER, NO. 40.

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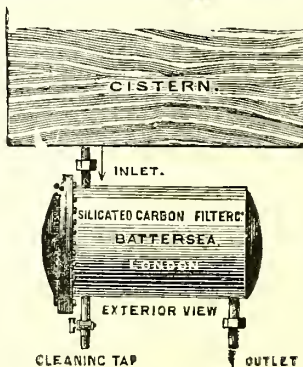
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PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows:—

A, $\frac{1}{4}$ -inch or $\frac{1}{2}$ -inch pipe	£6 6s.
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This Filter is extremely simple in construction, and can be either connected with a Cistern or attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 1,000 gallons per hour, according to size.

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for Large Works, Institutions,
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FOR PURIFYING THE WHOLE OF THE WATER SUPPLY OF A BUILDING BEFORE USE.
Ensuring Rapid and Perfect Filtration, at either High or Low Pressure.

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WRITE FOR FULL LISTS TO THE
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BISHOP'S GRANULAR EFFERVESCENT SALTS.

ESTABLISHED 1857.



The LANCET, writing of Bishop's Preparations, says—"Their excellence is well known." The BRITISH MEDICAL JOURNAL says—"The name of Mr. Bishop is a sufficient guarantee that the article is skilfully prepared."



BISHOP'S GRANULAR EFFERVESCENT CITRATE OF CAFFEINE.

THE BEST KNOWN REMEDY FOR HEADACHE.

This Salt has been most extensively used as a remedy for sick headache, and with such great success that it may almost be called a specific. It relieves all disorders of nerve-function, and is at the same time most cooling and refreshing.

BISHOP'S GRANULAR EFFERVESCENT CITRATE OF CAFFEINE is sold in bottles at 2s. 6d. each. With each bottle is supplied a wooden measure cup, which, when filled, but not heaped, gives an exact dose. The Granular Effervescent Citrate of Caffeine should be taken at the commencement of an attack of headache, and the dose should be repeated in an hour if any pain should remain. Testimonials from the most eminent medical men in the profession enclosed with each bottle.

An eminent Birmingham Physician writes:—"I like the EFFERVESCENT CITRATE OF CAFFEINE prepared by Bishop very much. It is a particularly valuable medicine as a morning restorative; and, after brain exhaustion, or where sedentary occupation have reduced the tone of the system, it may be taken with perfect safety and great advantage."

BISHOP'S GRANULAR EFFERVESCENT CITRATE OF POTASH.

Contains eight grains of this anti-febrile salt in each drachm, keeps well, and yields a delicious effervescent draught. It is more efficient, more economical, and more convenient than the ordinary alkaline waters, and much superior to the various mixed powders, which consist mainly of Tartrate of Soda.

The late Mr. Fewtrell, Analytical Chemist, wrote:—"It is the nicest effervescing preparation I have ever tasted, and is infinitely pleasanter than the bottled waters."

Dr. G. O. DREWRY, in his "Common Sense Management of the Stomach," recommends for Indigestion, Constipation, &c., the "GRANULAR EFFERVESCENT CITRATE OF POTASH" as a very agreeable, mild, and cooling laxative, when taken in doses of one dessert spoonful in half-a-pint of water before breakfast.

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For the preparation of artificial waters, these Granular Effervescent Salts are especially suitable. They give a refreshing draught, and may be relied on as presenting at the same time the chemical ingredients of the natural waters. It is obvious that in this form the Granular Effervescent preparations present many advantages over the waters themselves. Whilst all the constituents of the natural springs are reproduced, the Salts are extremely portable, more economical, and with them a sparkling refreshing draught is procurable in any quantity at any time. Among the Mineral Water Salts thus prepared may be named, Carlsbad, Kissingen, Pullna, Seltzer, Vichy, Lithia, Friedrichshall, &c., &c. In each case a teaspoonful of the Salt in a tumbler of water will produce a draught similar in effect to the natural water. The Seltzer Water has been long recognised, both in this country and in Europe, as an excellent tonic and mild aperient. A bottle of the Granular Effervescent preparation of this Salt is a great addition to the dinner table, as a small draught of the wholesome and refreshing beverage prepared from it, and taken during dinner, is both agreeable and beneficial.

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A perfectly white, and delicately clean preparation, prepared from salts obtained from the Pure Fruit Juices of Lemons and Grapes.

The best chymists in Great Britain and the Colonies keep no other "Granular Effervescent Citrate of Magnesia" than "Bishop's." The reason for this universal preference is that, since its introduction in 1857, it has been found that none of the Imitations of this preparation, originally introduced by Mr. Bishop, have been able to compare with it in reliability as a medicine, or in purity and freshness of flavour as a cooling drink. Full directions on each bottle.

Sold in convenient sizes to suit the Buyer.

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Messrs. JOHN WYETH & BROTHER are Sole Agents in the United States for Mr. Bishop's Preparations, and keep Stock of all the above products



Report on Mr. Bishop's Granular Effervescent Preparations. by Professor Attfield, Ph.D., F.R.S., F.I.C., F.C.S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, Author of a Manual on General Medical and Pharmaceutical Chemistry

London, 17 Bloomsbury Square, W.C.

Mr. Bishop's Granular Effervescent Preparations have been known to me for more than thirty years. The maker has submitted to me the formulæ for them. I have seen them compounded at his factory; I have more than once tested the materials he uses; I have many times analysed the finished products. The formulae are excellent, the ingredients are, the processes perfect, the products all that can be desired.

(Signed)

JOHN ATTFIELD.

Dec. 6, 1881.

DR. WARD COUSINS' EAR PROTECTOR

(REGISTERED



JULY 2ND, 1881.)

Exhibited at the British Medical Association, 1881.

THE EAR PROTECTOR is a simple elastic cushion admirably adapted to prevent the injurious effects of COLD, SUDDEN SHOCK, or NOISE. It can be instantly adjusted in the orifice of the external ear; and it is made in several sizes to suit the varying capacity of the Auditory Canal.

THE EAR PROTECTOR does not suspend the sense of hearing, but only modifies and reduces the intensity of sound; at the same time it prevents the shock of cold or noise upon the delicate drum, which in many persons is followed by deafness, discomfort, giddiness, and "noises in the head."

THE EAR PROTECTOR is specially adapted for SWIMMERS and DIVERS, and all PERSONS who suffer from any kind of aural disturbance AFTER BATHING; for ENGINEERS and ARTISANS daily working in the noise of factories; for SOLDIERS and ARTILLERYMEN who are exposed to the blast of cannon; and for TRAVELLERS and ALL PERSONS exposed to SEVERE COLD or WIND.

THE EAR PROTECTOR is a complete substitute for the unsightly and inconvenient plug of cotton wool; and it can be safely used by ALL persons labouring under AURAL WEAKNESS, and by all susceptible to PAIN and COLD in the EAR.

It is made in Five Sizes, put up in boxes of one pair. Retail 1/- per pair. Price to the Trade, 8/- per dozen pairs, less usual discount.

SELECT TESTIMONIALS.

From Sir WILLIAM BROOKE, F.R.S., F.S.A., London.
"Dr. Ward Cousins' Ear Protector is a most useful and valuable invention for preventing the ill effects of cold, and the shock of loud noises to sensitive ears. For bathers and persons close to the firing of cannon, and many facies the use of this very cheap and simple protector must be extremely beneficial."

From Surgeon-General J. MOUAT, V.C., C.B., M.D., &c., London.
"Dr. Ward Cousins has sent me a simple and ingenious Ear Protector against cold shock and noise, in the form of a very small vulcanite field, resembling the top portion of the finger of an inverted glove, which, when introduced into the ear, effectually prevents the entrance of cold, air, or water, and deadens noise. I consider this invention admirably adapted for the purposes for which it is intended."

From Deputy Surgeon-General HENRY F. WILLIAMS, M.D., &c., Southsea.
"I have examined your Ear Protector, and am of opinion that as soon as it is adopted generally by those exposed to sudden and loud explosions, as well as caused noises from engines and machinery, much benefit as well as comfort will be experienced."

"The ease with which the ear tolerates its presence, non-unsightliness, in comparison with cotton wool, its portability, and trifling cost recommends its adoption."

From Dr. SCHWARZBACH, M.D., Professor of Aural and Ophthalmic Surgery at the University of Königsberg.

"Many thanks for sending me some of your Ear Protectors. I have tried them on some of my patients and consider your invention a capital idea. It not only reduces the sound by one half, but it also gives to the external ear an equal and pleasant degree of warmth, which is essential in removing the so tenacious middle-ear catarrh. I am using one myself when going out swimming."

From W. MURRELL, Esq., M.R.C.S., Southsea.

"I consider Dr. Ward Cousins' Ear Protectors most valuable to swimmers as well as those exposed to deafening noises."

From Surgeon-General J. A. WOOLFRIES, C.B., M.D., &c.

"I can speak highly of Dr. Ward Cousins' Ear Protector as a preventive of the entry of water into the ear, having regularly used it during the late bathing season; and consider that it would be very efficacious as a preventive against shock to the tympanum during artillery practice."

SOUTHSEA, November 7, 1881. J. A. WOOLFRIES, Surgeon-General."

From SERGEANT W. TUOHY, late R.A., and Swimming Instructor to the Admiralty—Professional Instructor to the Portsmouth Swimming Club.

"I have used Dr. Ward Cousins' Ear Protectors for diving and swimming with great comfort, and much wish the admirable little contrivance had been brought out sixty years ago. I am confident that a large number of persons are prevented from bathing in consequence of sensitive ears, and the protector will be a great boon to them. It is also an excellent invention for protecting the ear from the hurtful effects of loud noise, and serious injury which I have known occur during gun practice."

"STATION HOSPITAL, GOSPORT, November 9, 1881.

DEAR DR. WARD COUSINS,
Your little invention to protect the ear on occasions when the organ is exposed to concussions from the firing of heavy ordnance, or from draughts, or whilst bathing, &c., seems well adapted to its purpose, whilst it has also the great merit of being very portable and of easy application.

It should be of very great service to those whose hearing is easily disordered by external impressions.

Yours sincerely,
G. GRIBBON, Surgeon-Major, A.M.D.,
In charge Gosport Station Hospital."

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- SAVAR'S FOSSILINE CORN AND BUNION PLASTERS** (Patent).—These Plasters stick without warming, and may be removed and replaced without inconvenience; they are emollient and comfortable. 6d. and 1s. boxes.
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Each Bottle of this unrivalled preparation is larger in size, more agreeable
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IN BOTTLES 1/- EACH.

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To be had of all Chemists and Medicine Vendors.

A teaspoonful of CORRY'S CONCENTRATED LEMON SYRUP
(1s. per bottle) added to the Fluid Magnesia forms a most
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Gave UNIVERSAL SATISFACTION at the MEDICAL and
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HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE;
it gives instant relief in Headaches, Sea or Bilious Sickness, and quickly cures the worst form of Eruptive
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the results of breathing air infected with Fevers, Measles, or Smallpox, are frequently prevented and
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The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to
thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs.
BARCLAY, EDWARDS, MAW, NEWBERY, SANGER, SUTTON, and the Wholesale Houses generally, ready to supply
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SALIS SALINE is a pleasant Effervescing Salt, that Purifies the Blood and Removes all Disorders of the Liver
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ESTABLISHED A.D. 1833.



FIRST PRIZE (SILVER MEDAL) FOR TRUSSES AWARDED BY THE
WORSHIPFUL COMPANY OF CUTLERS OF THE CITY OF LONDON, MAY, 1862.

FIG. 1.

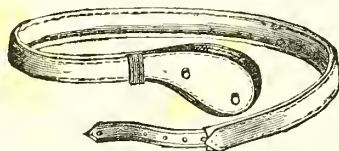


FIG. 4.

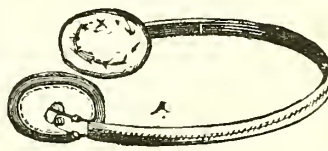
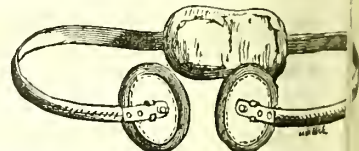


FIG. 5.



TRUSSES.

Circular Trusses, single, as Fig. 1, basil and chamois or basil and moleskin	per doz.	£1 1 0
Circular Trusses, double, basil and chamois or basil and moleskin	per doz.	1 14 0
" " " with extending backs	"	2 14 0
Salmon & Ody's Expired Patent, single, Fig. 4	"	1 10 0
" " " double, Fig. 5	"	3 0 0
Moc-Main Lever, single	each	0 8 0
" " double	"	0 13 6
Coles's Expired Patent, single	"	0 6 0
" " double	"	0 12 0
Scrotal Trusses, basil and chamois or moleskin, single	"	0 4 0
" " " double	"	0 7 0

SUSPENSORY BANDAGES.

No. 1. Cotton Bags and tape under-straps ..	per doz.	0 8 0
2. Cotton Oxonian, with drawing-strings	"	0 10 0
3. Silk Bags and tape under-straps ..	"	1 1 0
4. Silk Oxonian, with drawing-strings	"	0 18 0
5. " " Bags bound with elastic	"	1 4 0

SUSPENSORY BANDAGES—continued.

No. 6. Silk Oxonian, superior quality, bands of buff jean, with drawing-strings	per doz.	£ 2 0 0
7. Silk Bags, to button on, with tape under-straps.	"	"
8. " " " under-straps to button	"	"

ELASTIC STOCKINGS, KNEE-CAPS, ETC.

Manufactured expressly for Export, and warranted to stand a hot climate better than any others in the Market.

	Silk.	Super. Silk.	Cotton.	(No.)
Stockings per pair	£ s. d. 0 9 6	£ s. d. 0 14 2	£ s. d. 0 5 6	(10)
Knee-caps	0 6 6	0 10 0	0 3 8	(3)
Calf-pieces	0 7 0	0 9 6	0 4 4	(3)
Socks	0 5 6	0 8 0	0 3 6	(1)
Wristbands	0 2 2	—	0 1 6	(1)
Knee Stockings	0 16 0	1 4 2	0 9 2	(1)
Belts, to draw on each	0 16 6	—	—	(1)

The above may be obtained direct from the Manufacturers, or from their Wholesale and Export Agents, Messrs. Barclay & Sons, 95 Farringdon Street.

COLTHURST & HARDING,

PHŒNIX COLOUR WORKS, BRISTOL,

Also Petroleum and Benzoline Stores at Gloucester.

MANUFACTURERS OF

WHITE LEAD, PAINTS, AND COLOURS

Also VARNISHES of every Description

For Painters, Coachbuilders, and Japanners,

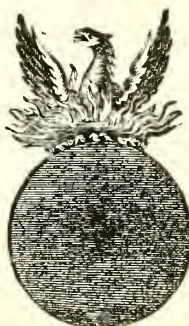
packed in Casks and Tins of all sizes.

PAINTS IN TINS

TRADE
Ball denotes

All Colours in 1, 2, 4, 7, and 14 lbs.

SOFT SOAP, GREASES, LINSEED



MIXED FOR US.

MARK.
Colour of Paint.

All Colours in 1, 2, 4, 7, and 14 lbs.

MEAL, AND CRUSHED LINED

IMPORTERS OF

Petroleum, Benzoline, Gasoline, Turpentine, Olive, Colza, Cod, Castor, Seal, Whale, and other Oils; Tallow, Pitch, Rosin, &c., &c. Sole Proprietors of the

CELEBRATED ELECTRIC LIGHT OIL

The most beautiful and perfect Illuminator.

OIL REFINERS AND DRY-SALTERS.

NEW GOODS.

Special Notice to the Trade.

We beg to notify that the Proprietors of Lundborg's Perfumes have appointed as their Sole European Agents.

THE LUNDBORG'S PERFUMES have maintained such popular favour in other countries that we anticipate for them an equal appreciation in the United Kingdom by people of refinement and good taste.



1 oz. Bots., 21s. per doz.

In America these goods occupy pre-eminently the first rank for quality above any foreign perfumes.

For Delicacy, Richness, and Permanency Lundborg's Extracts certainly have no equal.

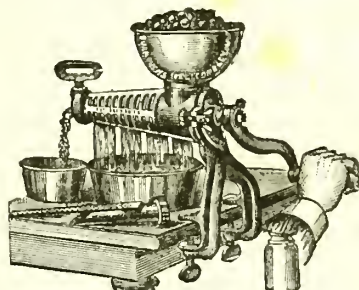
There are excellence of quality, combined with the elegant and tasteful style in which they are put up, renders them once attractive and readily saleable.

As novelties in this market, the trade will, we believe, be glad to introduce them, and they yield a good profit and do credit to the introducer.

THE ENTERPRISE TINCTURE PRESS.

Specially adapted for Coarse and Fibrous Drugs.

The principle upon which this Press operates is, that the drug is acted upon in a continuous thin layer which is forced forward by each revolution of the screw into smaller and smaller space, the leverage yielding a force so powerful as to extract almost the entire moist ~~re~~, delivering the residue of suitable drugs with almost crisp dryness, and, as experience has shown, it saves a greater amount of Tincture (very important in the case of Tincture of Opium and other expensive drugs) than even the most powerful Hydraulic Press. So thorough is its action



in this respect that the *Chemists' Journal* has humorously remarked of it that "it will almost squeeze blood out of a turnip." One firm informs us that they have saved at least £20 more in three months, by the use of this Press, than they could secure by using any other. The working of this Press being continuous, either small or very large quantities may be operated upon at one time, and much more rapidly than in any other form of apparatus.

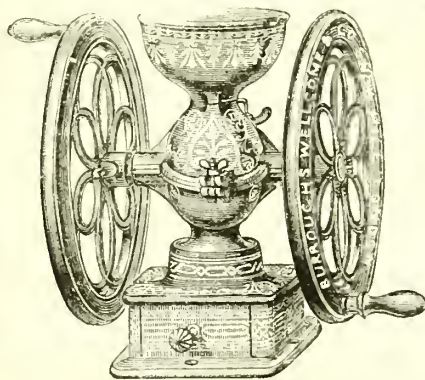
The fact that drugs require handling but once, that the use of press cloths is done away with, and that the operation is continuous, shows a great advantage in this Press over any other.

Price 15 shillings, subject to the usual discount. Obtainable from every Wholesale Druggist.

THE ENTERPRISE DRUG MILL.

Constructed on an improved principle, the cutters being easily removable for inspection, or for cleaning. It may be regulated to grind to any degree of fineness or coarseness, by simply turning a single thumbscrew. Is adapted to almost any dry pulverizable substance; it works rapidly and is economical.

Professor MAISCH, one of the highest American authorities on pharmacy, says that "It is the best drug mill that has yet been devised. It is intended to displace the use of the mortar for general purposes in pulverizing drugs."



Prices { Plain .. 40s., 60s., 100s. } each.
Ornamented 50s., 70s., 110s.

Subject to the usual discount for cash.

All of the Articles mentioned above may be obtained from any respectable wholesale firm, or from BURROUGHS, WELLCOME & CO., of 7 Snow Hill, LONDON, E.C., the sole European Depôt.

2 oz. Bots., 33s. per doz.
1 oz. Bots., 21s. per doz.

MARECHAL NIEL ROSE
EDENIA

SOUTHALL'S "AQUARIUM" SEA SALT FOR SEA WATER BATHS

The following voluntary Testimonial has just been received from H. J. HARDWICKE, M.D., F.R.C.S.
M.R.C.P. Ed., &c., Senior Physician to the Sheffield Public Hospital for Skin Diseases, &c., &c. —

To Messrs. SOUTHALL BROS. & BARCLAY.

69 WESTMORELAND ROAD, SHEFFIELD.

GENTLEMEN,—Your Sea Salt is a very valuable agent in the treatment of disease, having, when used in baths, a remarkable effect on the system. Under continued use the perspiration and flow of urine are increased, relieving the glands of the skin and the kidneys; the elimination of chloride of sodium and phosphate from the body is diminished; the appetite improves; the bowels act more regularly; the whole system is stimulated; and the weight of the body increased.

In such diseases as Lepra (Psoriasis) and Eczema, however, where there is morbid deposit on the surface of the skin, Sea Salt should not be used.

I believe your preparation of Sea Salt to be genuine, and valuable in the treatment of most diseases.
I am, Gentlemen, yours, &c., H. J. HARDWICKE.



In each Box is an Earthenware Cup which holds sufficient for one bath. The box is lined with waterproof paper. The Salt being in coarse powder dissolves at once.

Retailed in Boxes (with measure), at 1/-, 1/6, and 2/6 each.

DIRECTIONS.—For sea water of full strength add a gallon of water to each measureful of Salt. For aquarium purposes adjust the specific gravity with a hydrometer or gravity bubble so that its specific gravity shall be 1.027 at 60 deg. Fahr.

SOUTHALL BROS. & BARCLAY, Manufacturing Pharmaceutical Chemists, BIRMINGHAM.

DRAPER'S INK (DICHROIC)

THE NEW BLACK INK, different from anything else ever produced.

Writing becomes a pleasure when this Ink is used. It has been adopted by the principal Banks, Public Offices, and Railway Companies throughout Ireland.

It writes almost instantly full black.

Does not corrode Steel Pens.

Dries rapidly on the Paper.

Is cleanly to use, and not liable to blot.

Flows easily from the Pen.

Blotting-paper may be applied at the moment of writing.

In Jars, 6d., 1s., and 2s. each.

Can be obtained, in London, through Messrs. BARCLAY and SONS, Farringdon Street; W. EDWARDS and SON, 157 Queen Victoria Street, London, E.C.; F. NEWBERRY and SON, Newgate Street; S. MAW, SON, and THOMPSON, Aldersgate Street; JONES & CO., 98 Southwark Street; HARVEY, SHEPHERD & CO., Charterhouse Square, London; WM. MATHER, Manchester; ARNOLD and SAUNDERS, Duke Street, Liverpool; and GOODALL, BACKHOUSE & CO., Leeds.

BEWLEY & DRAPER, Limited, DUBLIN.

See "CHEMIST AND DRUGGIST," December 15th, 1874.

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**BEST
FOOD
FOR
INFANTS**

USED IN THE
ROYAL NURSERIES.

MALTED & COOKED
READY FOR USE WITHOUT
BOILING OR STRAINING.

Tins, 1/-, 2/-, 5/- & 10/-.

The ONLY FOOD prepared
expressly for INFANTS.

A combination the result of the latest physiologic experiments upon Liebig's original formula. The granules of the Ferina are thoroughly broken and cooked, and adapted for conversion into food. It is also associated with the distaste of known digestive activity, and the nutrients in due proportions. THIS FOOD IS HEREFORE REALLY "SELF-DIGESTING" in the stomach, and conveys nourishment for every part of the human frame. Possesses every requirement necessary for Children brought up wholly or partially by hand.

OFFERS ADVANTAGES OVER ALL OTHER FOODS IN THE MARKET.

LIQUID EXTRACTS OF THE DIGESTIVE FERMENTS.

"Most powerful preparations in the form of mother liquors," of pleasant odour and taste.

PANCREATINE,
Neutral Essence of.

A perfectly tasteless preparation, specially adapted for the peptonisation of milk, arrowroot, and other mucilaginous articles of diet in general use in the sick-room.

Dose, 1 drachm.

PANCREATINE,
Saline Essence of.

The most powerful agent for the digestion of Fat and Farinaeous Foods.

These preparations are reliable and concentrated forms adapted for all the purposes for which Pancreatine and Pepsine are administered.

Dose, 1 drachm. (See *British Medical Journal*, Dec. 13, 1879, p. 965, &c.)

PEPSINE,
Saline Essence of.

The most powerful agent for the digestion of Meat, Milk, Eggs, etc. May be taken with Food as a Sauce or Ketchup.

These preparations are reliable and concentrated forms adapted for all the purposes for which Pancreatine and Pepsine are administered.

Dose, 1 drachm. (See *British Medical Journal*, Dec. 13, 1879, p. 965, &c.)

PEPSINE EXTRACT
(Acid Glycerole of Pepsine).

A convenient solution for the mixture with other Saline, Bismuth, etc., nature rendering it agreeable with other syrups and fluids.

Dose, 1 drachm.

These Preparations are obtainable in 4, 8, and 16 oz. Bottles, or any quantity required, of all Wholesale and Retail Chemists.

NUTRITIVE, OR MIXED PEPTONE ENEMA

(Enema Peptonicum, Savory),

Consisting of mixed Peptonised Foods for injection per Rectum, thus supplementing and relieving the Digestive Organs. Prepared at the request of A. E. SANSOM, Esq., M.D., &c. Each bottle contains two small or one full dose.

SAVORY & MOORE, 143 New Bond St., LONDON.



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General Office.

Literary Contents.

PAGE	PAGE
Month 187	Editorial Notes—cont.
Corner Students 188	Annual Reports of the Phar-
Pharmacy 189	maceutical Society, and
Pharmaceutical Council 191	the Chemists and Drug-
Bill for regulating the Sale	gists' Trade Association.. 212
of Poiss 191	Parisian Gos-ips 214
Pharmaceutical Society of Ire-	Reviews and Literary Notes—
land 192	Professor Atfield on Phar-
Metropolitan Reports 193	maceutical Education . . . 215
Dispensing Accident 194	Dr. Whitt's Elements of
Provincial Reports 194	Pharmacy, Materia
Microscope and its Revelations 195	Medica, and Therapeutics.. 216
Phenol, Isol, and Creasol, 197	Personalities 217
Comparative Tests 197	Scientific Notes 217
General Hints to the Dispenser 200	Poisoning Cases 219
Alcohol Thermometers 201	Obituary 220
American Pharmacy 202	Legal and Magisterial—
Pharmacy in Australia 203	Mustard and the Analysts.. 220
Balloon Safety 203	Trade-marks on Aerated-
Pharmaceutical Hints 204	water Bottles 221
Heche, Dr. Wilhelm 204	Castile Soap 221
Chemical Society 206	Paukrutcies and Liquidations 222
Patent Medicines in the House	Foreign and Colonial 222
of Commons 207	Notes of Novelties 223
Pharmaceutical Formulas 208	Medical Gleanings 224
Editorial Notes—	Brevities 224
Regulations for the Sale of	Trade Notes 224
Poison 210	Patents 225
The Cde of Tubercular	Gazette 226
Disea 211	Exchange Column 227
Proposed State Aid for a	Trade Report 229
Veterinary College 212	Monthly Prices Current . . . 231
Coffee and Cocoa Medicines 213	Correspondence 233



The Pharmaceutical Council, on the invitation of the
Secretary, have submitted certain suggestions for the
amendment of the law relating to the sale of poisons. They
propose that wholesale dealers should be required to keep a
record of their transactions for a year; that the exemption
of patent medicines from the provisions of the Pharmacy
Act should be repealed, so as to bring those containing
poisons under the same restrictions as would apply to those
sold under another form; that a certain course of
technical education and training should be required of those
persons who sell poisons besides the qualifying examination;
and that further restrictions on the retail sale or dispensing
of poisons are unnecessary and impracticable.

Mr. Warton brought forward his long-announced speech
on patent medicines in the House of Commons on Friday
night last, and showed that he had made himself well ac-
quainted with the subject. Mr. Hibbert, who spoke on
behalf of the Government, remarked that Mr. Warton had
shown there was more in the question than many people
imagined, and that it was worth the attention of the
Government. Whether it was desirable to continue to raise
even more patent medicines he was not prepared to say,
but he was quite in sympathy with Mr. Warton in regard to
the main purpose of his address.

The Pharmaceutical Society's annual meeting will be held
at noon, at 17 Bloomsbury Square, on Wednesday next,
May 17. Their report shows a total income of about 15,400*l.*,
which exceeds the expenditure by 1,138*l.* They direct at-
tention to the proposals they have made in regard to the
sale of poisons, and for a curriculum. Probably criticism
will turn on those subjects.

The Chemists and Druggists' Trade Association will hold
their sixth annual general meeting at 12.30 on Tuesday
next, the 16th inst., at the Inns of Court Hotel. Their report
shows that their expenditure for the year has been about
1,070*l.*, while their income has been about 200*l.* short of that
amount. The year has not been an eventful one with them.

The members and friends of the Pharmaceutical Society
will hold their annual dinner at the Freemasons' Tavern on
Tuesday evening next, May 16. Tickets, 30*s.* each, are sup-
plied by Mr. R. Bremridge, 17 Bloomsbury Square. The
Society's *conversazione* will be held the next evening at
South Kensington, at 8 P.M.

Professor Atfield has issued to the members of the Phar-
maceutical Society generally copies of his vigorous pamphlet
advocating the institution of a curriculum. We expect he
will send a copy to any one interested who will apply to
Ashlands, Watford.

A French chemist claims to have discovered a process for
the synthesis of quinine, and has deposited at the Institute
of France a sealed packet describing his process, pending
the medical testing of his product.

We report a fatal dispensing accident, occasioned by the
substitution in a mixture of solution of nitrate of mercury
for solution of pernitrate of iron. The mistake seems to
have originated with the wholesale house, who supplied the
preparation wrongly labelled.

The Executive Committee of the International Pharma-
ceutical Congress held a meeting on April 28, at which the
accounts of the entertainment fund were wound up. There
was a balance in hand of 17*l.* 11*s.* 6*d.*, which was passed to
the Secretary of the Pharmaceutical Society for the casual
relief of necessitous members of the trade. A letter from
the President of the International Pharmacopoeia Commis-
sion (Mr. Waldheim) reporting progress was read. It
appeared that opinions as to what articles should be
included in the International Pharmacopoeia had been
received from the representatives of 11 countries, but had
not been sent in by the representatives of 7 other nations.
England was in the first category; France, Ireland, and the
United States in the second.

The Revenue Bill now before the House of Commons con-
tains a clause which will prevent the manufacture or sale
of any mixture (except chicory), with coffee and of any
mixture with cocoa. The clause is being vigorously opposed
by the trades affected.

The Birkenhead Town Council have made a curious ex-
periment. They mixed coffee and chicory in various pro-
portions, and sent samples to their own and several other
public analysts. Some of the analysts came very close to
accuracy, Somerset House, Dr. Dupré, and Dr. Vacher being
the widest from the mark.

Messrs. Colman & Co., of Norwich, have during the month
defended various grocers prosecuted under the Sale of
Food and Drugs Act for supplying as mustard a mixture of
mustard with a certain percentage of flour. Messrs.
Colman showed the necessity of this mixture, and in all
cases gained a verdict.

CORNER FOR STUDENTS.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

QUALITATIVE ANALYSIS.

THE subject of the next exercise will be a mixture of salts. The mixture is to be submitted to a complete systematic examination, designed to detect all its constituents, and to demonstrate the absence of other substances. Students are required to send a complete report of the analysis. A list is to be given of the metals and acid radicals detected, distinguishing those which may be regarded as accidental impurities.

Applications will be received up to May 20, and portions of the mixture of salts will be sent to applicants on the 25th.

Students' papers will be received up to June 15.

REPORTS.

The mixture of salts distributed for analysis in March consisted of—

	Parts
$K_2Al_2SO_4 \cdot 24H_2O$	30
$ZnSO_4 \cdot 7H_2O$	30
$MgSO_4 \cdot 7H_2O$	5
NH_4Cl	5

The only impurities present in notable quantity were iron and calcium.

The large number of papers received this time include many reports, which display considerable skill and ability. Though some of the constituents were present in small quantity, there are not many failures to report. We strongly recommend those students who did not succeed in detecting all the constituents to prepare a mixture of the composition given above, and to repeat the analysis. By this means the cause of the former failure can be detected, and the student will acquire experience of the highest value. There is one precaution that requires special mention, as there is no doubt from the papers before us that it is often neglected. It is of the utmost importance that a sufficient quantity of each reagent be used. It will not do to trust to chance or guess work; an experiment must be tried to make sure that a sufficient quantity has been employed. This remark applies especially to the group reagents. There is nothing easier than the prevention of any such error. When a precipitate has been produced by a group reagent, and the liquid filtered, add to the filtrate an additional drop or two of the reagent; and, if no further precipitate is produced, it is a certain indication that the quantity originally employed was sufficient. Frequently the subsidence of the precipitate admits of the experiment being tried before the liquid is filtered—an obvious advantage, as a second filtration will be avoided when an additional quantity of the reagent must be employed.

Frequently acids and alkalis play important parts as reagents, and in such cases no guesswork is for a moment admissible. The reagent and the liquid under examination must be thoroughly mixed, and the reagent must be added until the reaction of the mixture is certainly acid or alkaline, according to the requirements of the case.

There are few blowpipe operations that require so much caution as that depending upon the use of cobalt nitrate. When this salt is strongly ignited the oxide remains, and in the presence of certain other oxides coloured bodies are produced. This reaction affords a means of detecting a number of substances, notably aluminium, zinc, and magnesium. In the case of magnesia the combined oxides present the appearance of a pink mass, the aluminic compound is the blue pigment known as Thénard's blue, and with zinc oxide the product is Rinman's green. There are conditions under which these tests are very useful; in the examination of minerals, or for the purpose of verification in the wet method or analysis, they are most valuable, but unless there is some circumstance that narrows the issues to the detection of one or other of the oxides, and some guarantee that substances

that would complicate the reaction or simulate the oxide are absent, the test is by no means a safe one in the hands of a beginner. The student will do well to consult the blowpipe manual, such as Platner's, on this subject.

PRIZES.

The First Prize for the best analysis has been awarded to W. W. TALBOT, 48 Main Street, Bulwell, Nottingham.

The Second Prize has been awarded to J. A. EGG, 2 High Street, Boston.

Marks Awarded for Analyses.

W. W. Talbot (1st prize)	96
J. A. Hogg (2nd prize)	94
J. Laurie	92
Dalex	90
W. Miller	90
Harry Wilson	90
R. E. Hall	90
Student	85
H. C.	85
R. W. F.	80
Tycho Brabé	83
J. F. Croshaw	79
R. J. MacDermott	79
J. Smith	50
Nemo	50
Quanto	50
J. Musgrove	45
J. B. C.	45
J. M. C.	45
Juvenis	40
Vibgyor	20

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

* All communications should include the names and addresses of the writers.

J. Laurie.—The quantity of sodium that suffices to colour the Bunsen flame is so very minute, that under the conditions you describe, it would be practically impossible to obtain a flame free from the sodium tint. The management of the blowpipe flame is entirely a matter of practice. The only way to effectually clean the platinum wire is by ignition, after adhering or soluble matter is removed by washing.

Student.—You do not mention the precise conditions under which the blue colour was observed, but no doubt the effect was due to the decomposing action of the acid on the ferrocyanide.

R. W. F.—The flame test gave very decided evidence of the presence of potassium, and so did platonic chloride, provided the solution was not too dilute.

Tycho Brabé.—The precipitate produced by sodium phosphate must have been due to magnesium; you had previously separated the aluminium. Although the hydrate of the latter metal is perceptibly soluble in ammonium hydrate, it may be regarded as insoluble in the presence of ammonium chloride.

J. Smith.—The cloudiness observed in testing for magnesium shows that there was more than a trace present. A trace will only produce after some time a precipitate consisting of small crystals adhering to the sides and bottom of the test-tube; this would not produce the appearance you describe. When the precipitate produced by ammonium sulphide is coloured you must be slow to attribute this to any one member of the group, as the colour produced by mixtures of different sulphides, &c., may be very deceptive.

Quanto.—On adding ammonia to the acid solution of the group precipitate containing aluminium, you failed to obtain a precipitate; you did not employ the reagent in sufficient quantity. You must always make sure that the ammonia is in excess; the liquid, after the ammonia is added and thoroughly mixed with it, should smell distinctly of ammonia.

J. Musgrove.—The solution which failed to give a precipitate with ammonium carbonate must, of course, have contained ammonium salt and potassium, and after evaporation and expulsion of the water there must have been a considerable residue. We repeat the experiment with a mixture of the composition given above.

J. M. C.—You remark that a borax bead, with which some of the substance was heated, turned blue after the addition of cobalt nitrate.

and in this you infer that aluminium is present. A very superficial student of the principal blow-pipe tests ought to have enabled you to avoid so old an error. What you observed is the most characteristic reaction of cobalt.

Just.—Cobalt compounds impart a blue colour to the borax bead, not to the Bunsen flame. The original powder was colourless, and, therefore, most which yield coloured salts could only be present in small quantity, if at all. Prepare a mixture of equal parts of potash, alum and of zinc phosphate, with about 1 per cent. each of a cobalt and of a chromium compound, and then go through the analysis just as you have described it. Do not conclude that a precipitate is due to either chromium or cobalt without having examined it with the blow-pipe; the reactions of these metals are most sensitive and characteristic.

Editor.—You will find that the ammonia you employed contains carbonate; this, at least, is the only explanation we can offer of your failure to detect zinc.

Pharmacalia.

BOTANICAL STUDIES.

GREEN were the gardens, and in the freshness of their bloom when, on Saturday, May 6, Professor Bentley gave his introductory lecture on Practical Botany at the Royal Botanical Society, Regent's Park. There was a good attendance and the condition of this class is most satisfactory. The course is as excellent as it is cheap; one guinea being the fee for these morning demonstrations, when the mysteries of a difficult science are explained by the aid of the plants themselves, which, in their natural state, form an admirable improvement on dried specimens and botanical diagrams.

Most visitors to this London garden, the loveliness of which is unchangeable, will remember the long glass corridor originally as a covered-way from the North Gate to the conservatory. It has of late been pressed into service for the spring and summer exhibitions, and has become infinitely too small. It is proposed to widen it throughout, from 12 to 25 feet, so that in future it may not be inconveniently crowded. A sum of 600*l.*, which will be raised without much difficulty, will be required for this increased accommodation.

During the quarter which has just elapsed Mr. Peter Squire presented a specimen of a curious development of elm-roots, which are matted together, and found to completely block and choke a drain-pipe. A single root enters at one end, sometimes at a considerable distance from the place to which it belongs, and immediately starts and divides into innumerable ramifications, when the small fibres cohere. This kind of development takes place when a tree-root is cut off, as those of willows growing on the margin of rivers. Perhaps the roots meeting with little resistance, search for food; or, possibly, the less resistance they meet with encourages a special sprouting or ramification of the fibres.

Great attention is being paid to the search for and supply of paper materials, owing to the enormous demand for esparto grass, specimens of which may be seen growing in the gardens. A vast variety of fibres and other materials derived from the vegetable kingdom have been brought next to linen rags, the most valuable is the *Macrorrhiza*, or esparto, a native of Tunis and Spain, allied to our feather grass. The demand has exceeded 1,000,000 *lb.* annually, and it is feared that the supply may be exhausted.

A singular and beautiful flower, the *Hibiscus schizopetalus*, has been raised in the Society's green-house. It was discovered by Sir John Kirk, on the coast hills at Mombasa, Africa, and seeds of the plant were presented by him to the authorities in Regent's Park. It is distinct from all other species.

The Royal Botanic Society has turned its serious attention to the question of weeds on gravel walks, and the subject has been deemed of sufficient importance for the secretary to issue a report upon the subject. The official report states that experiments on the destruction of weeds have been made since 1869 with various substances. Amongst others, sulphuric, sulphurous, hydrochloric, and carbolic acids; sodium chloride, copper sulphate, zinc chloride, flowers of sulphur, paraffin oil, Burnett's and other disinfecting fluids have been essayed. Success was obtained with some refuse fluids presented to the Society from a colour-works in 1876, but the supply could not be renewed. It was used in the proportion of one to three of water; its application destroyed all vegetable growth, and none re-appeared on the walks for more than three years after. Of the several agents tried from time to time, three were reserved for further experiment—sulphuric acid (1—15), carbolic acid (1—50), and sodium chloride (56 *lbs.*—125 pints). Sulphuric was immediately fatal to all vegetation on contact, carbolic was slow in action, salt was immediately fatal on a wet day or on a damp walk, but its preventive action only lasted for three or four months. Visitors may study these effects in the gardens at their leisure. A special machine has been devised for the distribution of the salt. It consists of a square box-sieve of perforated zinc, mounted on wheels with an automatic action, so arranged as to communicate to the sieve a jolting motion when drawn along the walk. It may be useful to allude to the Society's travelling plant-case as designed by Mr. W. Sowerby, though it is probably well known already to many of our readers. During transit it is treated exactly as a bird-cage containing a living bird, and it has proved very successful in preserving plants through long voyages.

The students having taken their places in the Museum, which is a sort of rustic structure close by the main entrance of the garden, Professor Bentley said that he had once more the pleasure of meeting the students of pharmacy in order to pursue with them the accustomed practical demonstrations. Some had desponded about the late coldness and unsettled state of the weather, but he felt sure that whenever he should be found in his place in the gardens he should be cheered with the sunshine of their presence. It was an advantage to begin at an early hour; and they must all be struck with seeing Nature, as they certainly did that morning, in her full beauty: the leaves unfolding, and the flowers bursting into new life. Let them learn this lesson from the leaves: they were perpetually storing up nourishment for future use, and so also should students store up knowledge in their youth which might serve them for the materials of success in after life. That morning he would be occupied in general observations. Opportunities were given in those gardens which could rarely be met with elsewhere. There were few—comparatively few—who had the advantage of studying in so large a field of observation, where there were hothouses, conservatories, appliances of all kinds, and beds laid out with plants arranged in Natural Orders, specially designed for botanical work.

The Council at Regent's Park had placed it within the reach of pharmaceutical students to do work in which they were specially interested. Whilst using these advantages they must be careful not to abuse them—a caution which it

was his official duty to make as Chairman of the Garden Committee, but for which his experience had taught him there was no other necessity. He had lectured there for many years—so many that he was obliged to resort to arithmetic to ascertain the correct number. He believed that it was more than 30, and he was glad to recognise amongst his pupils the sons of men he had known as students. He proposed, whenever convenient, to walk round the grounds after lecture, so that the botanical characters of the plants should be studied on the plants themselves—in all cases specimens could be had on application. The Professor then entered upon more detailed observations. At Bloomsbury Square he had described the different organs, such as the root, stem, and leaves, the organs of nutrition which feed the fruit and seed; and these had been treated both morphologically and with regard to histological characters. But in the Gardens it would be necessary to consider the same subjects practically, so as to be able to examine any plant and to ascertain its name. There was, moreover, a technical language which it was indispensable to acquire.

In the range of botanical study there was nothing more important than the leaf, and it would have to be described in all its variations: it underwent more modifications than any other part. It rose from the stem, and this constituted one difference between the stem and root, as the latter did not give off flattened organs. The leaf consisted of two parts—a skeleton or hard tissue, and soft matter: the ramifications of the former produced the veins or nerves; the soft part forming the parenchyma of the leaf.

* *

When we were present at the reading of the two last Darwin papers at the Linnean Society, we observed, in common with others, that Mr. Francis Darwin, who read the papers for his father, invariably, and often, pronounced the word just written "parenchyma," that is with a short y vowel. Accustomed to the removal of ancient landmarks we carefully examined the matter, particularly as this pronunciation appeared to be accepted as a matter of course by the fellows present. We found that there was no justification whatever for the long vowel pronunciation, though adopted by Pereira and our own professors, and we are prepared to justify this statement both from the Greek derivation and from the practice of eminent botanists. We would, therefore, ask our fellow-students, who may satisfy themselves on the subject by reference to standard authorities, to call the word "parenchyma" in future.

* *

The Professor, in continuation, said that in the leaf the tissues were spread out because it had to expose the food to the action of the light, whereas in the root, the function of which was to absorb moisture, the tissues were contracted. The leaf differed from the stem in the order of its development; for while in the stem the apex was the youngest part, the very reverse was the case in the leaf, where the apex was first formed, and was the oldest part. Leaves usually had two surfaces, the upper and the lower—sometimes, as in *Eucalyptus*, these surfaces were lateral.

The duration of leaves formed distinct characters: in this country, where they were articulated, they fell off without leaving a ragged appearance, and this was a usual characteristic of Dicotyledonous plants. It was not, however, invariable, for the oak, being non-articulated, did not present this character. In Monocotyledonous plants, as in the palms, in bulbous plants, and grasses, and also in Acotyledons, the leaf died gradually downwards, and gave sometimes a particularly ragged appearance.

Some leaves were deciduous, especially in this country; others, like the box and cherry-laurel, were evergreens, with

persistent leaves. Other leaves, being thick and fleshy, were termed succulent; and some leaves which grew underground were called scales. Leaves had three distinct parts when fully developed—the lamina, or blade; the petiole, or leaf-stalk; and the stipules. All three present modifications which became distinctive.

The Professor was about to describe the insertion of the leaf when the time was exhausted.

He remarked that he should have to employ many Greek words in his lectures, but though there were ladies present, such was the advance of high-school teaching that an explanation of these terms would scarcely be necessary as the derivation of most of them would be familiar.

With that comforting assurance, in which personally we do not share, we may leave Professor Bentham and the botanical demonstrations, wishing them the success which assuredly they deserve.

* *

Attention is directed to the remarkable communication by J. E. T. Aitchison, F.L.S., Surgeon-Major H. Bengal Army, on "The Flora of the Kuram Valley, Afghanistan." This is a second paper on the same subject, read before the Linnean Society on June 16, 1881, and now printed in the April number of their journal. The author landed in Bombay on March 1, but, owing to delay caused by waiting for orders from Government, was unable to commence work at Kuram until May 29, too late for the spring vegetation. He was enabled, however, to hotanise some portions of new country with tolerably satisfactory results, obtaining several new species, and adding considerably to the material of many of the more interesting species of former collections. He hopes to furnish some further particulars respecting the geographical range of particular species, illustrated by a set of analytical tables. The work thus modestly described is before the reader as an annotated list of the plants collected; a diagrammatic map of the Kuram Valley, including the Hariab district; and 30 plates, beautifully, and of course faithfully, designed.

Papers such as these can only be occasionally produced, such great pains being requisite for their execution. The author in his wanderings noticed that every native, when drinking from a spring of water, usually made a fresh drinking-ladle from the leaf of the *Nannorrhops*, but when he left the plains and got up into the western hills, bowls made from the bark of the apricot usually lay floating in the pools for general use. This custom he found extended as far west as the Zérán Valley, but there the bark from the knots of the walnut constituted the universal drinking-cup. Either, therefore, only persons of the same brotherhood or of one caste traverse these parts, or the inhabitants are more liberally disposed.

How botanical mistakes may arise is shown in the case of a pine which for a brief period was supposed to be a new species. At the village of Zérán, cultivated as a sacred grove, the author came across one large old tree and several smaller younger ones of *Pinus halepensis*. It seems to be cultivated throughout Afghanistan, and Dr. Cell, when surgeon to the 10th Hussars in the Kabul Expedition, was the first to send specimens to Sir Joseph Hooker at Kew, recognising it as different from the ordinary Himalayan species.

Sir J. D. Hooker, deceived by having had it sent to him in cones of this with leaves of *P. excelsa*, at first supposed it to be a new species. He himself, however, discovered the mistake, and rightly referred the specimen he had received to *P. halepensis* before the receipt of a perfect specimen from Mr. Aitchinson.

The author collected a plant called the *Corydalis ramosa*,

which is employed medicinally by the natives for the treatment of eye diseases. It happens to have a yellow watery juice, and every plant with a yellow juice is considered by the natives as a sovereign remedy. The elaborate enumeration of the plants collected possesses a purely technical interest, but must be allowed that Surgeon-Major Aitchinson has utilised the advantages of his position, and has made a valuable contribution to the pages of original research.

GENTLEMEN CADETS AS CHEMICAL STUDENTS.

One will read without astonishment or a strong feeling of indignation the pamphlet by C. L. Bloxam on "The Present Condition of the Royal Military Academy, Woolwich." The author, whose name is familiar to the whole chemical world therein details his experiences as a teacher for the last quarter of a century at the establishment just named. He has been compelled to resign his post on account of a laxity of discipline tolerated to an extent which, at first sight seem incredible.

The gentlemen cadets (the term is a misnomer) were allowed to behave in a manner which was as outrageous as it was out of keeping with the name by which they are officially described.

It seems that for 14 years, down to 1870, things went well. Mr. Bloxam, therefore, could be no novice and no intruder when the indignities of which complaint is made began. The cadets were paraded and marched into the lecture room in charge of a lieutenant, who remained throughout the lecture to command silence and attention. The Assistant-Inspector, the Inspector of Studies, and sometimes even the Governor would give the sanction of their presence. The students naturally behaved with decency, and treated their Professor with respect.

But so-called reform was inaugurated. The office of the Professor was abolished; the officer in charge removed; and a circular was issued to the instructors that tact and temper were to replace military discipline, and that the Professors were to be answerable for the behaviour of the cadets. The misrule set in, and the cadets, all countenance of having been withdrawn, did exactly what they pleased. The lecturer was not able to do his subject justice, interrupted by a shout of laughter caused by the telling of an obscene joke, or when compelled to leave the middle of a chain of reasoning in order to place in the hands of the originator of some disturbance.

We need not enter into the miserable details of these proceedings. By the new arrangements an independent Board of Visitors was appointed, before which for successive years Mr. Bloxam appeared; but, having called the attention of the Board to the inexpediency of allowing cadets to obtain leave of absence without the sanction of the Professor, he never received a further opportunity to attend.

Students, as a rule, are not a quiet race, and no one could expect them a passing pleasantry, or a reasonable amount of good nature. But these cadets went beyond the limits of licence: they drew obscene sketches, and wrote offensive letters; they damaged the apparatus on the lecture-table, and pulled down the specimens; they turned on the gas-taps, and might have blown away the east wing of the Academy; they turned the *river-voce* examination into ridicule, and it had to be discontinued; while, for all this, there was neither redress nor probability of amendment. The Professor might as well have washed the premises at his own expense, and, at his own st. barricade his lecture-table—which is precisely what he did. Supposing that the authorities considered Mr. Bloxam to be an incompetent instructor, they surely

might have discovered that fact at an earlier date; and, had they wished him to be replaced, they might have adopted some more dignified manner of carrying out their intention.

The Pharmaceutical Council.

THE usual monthly meeting of the Pharmaceutical Council was held on May 3, 1882, Mr. Greenish, President, in the chair; Mr. G. F. Schacht, Vice-President. All the other members were present except Mr. Savage.

The annual report of the Council, for presentation to the general meeting on May 17, was discussed in committee and agreed upon.

After the election of members, &c., the name of Edwin Atkins, 7 Beaumont Square, Beaumont Street, E., was restored to the register on payment of a fine of one guinea.

The Finance Committee submitted their report, which was adopted.

THE BENEVOLENT FUND.

The Committee recommended two grants, one of 10*l*. and another of 15*l*. The report was adopted.

Mr. ROBBINS (Treasurer) said there was a large balance in connection both with the Benevolent Fund and with the General Fund. Knowing that the Council did not approve of buying Consols above par, he would move that 2,000*l*. should be placed on deposit on the General Fund account, and 500*l*. on the Benevolent Fund. He at the same time pointed out that they would still lose 1 per cent. on the money by not investing it.

Mr. HAMPSON wished to know whether this matter had been considered by the Finance Committee.

Dr. SYMES said he had no objection to the proposal as regarded the 2,000*l*. balance on the General Fund account, and if the 500*l*. which it was proposed to deposit in connection with the Benevolent Fund was merely placed there until it was wanted, he should have no objection to that; but if it was to be funded in any way he should object very strongly. He understood that the money had been asked for on the ground that it was urgently needed, and would be used at once for the purposes of persons applying from time to time. He should be sorry that they should create an impression that they had more money than was at present needed.

The PRESIDENT, in reply to Mr. Hampson, said the Treasurer's proposal came from the Committee.

The SECRETARY intimated that the money was needed, and was simply to be placed or deposited for use as required. He reminded the Council that there were six unsuccessful candidates at the last election.

The Treasurer's proposal was adopted.

THE LIBRARY, MUSEUM, LABORATORY, AND HOUSE.

This report gave the usual details of addition to the library and museum. The Committee reported that they had asked the Secretary to furnish them with returns showing the number of students who had attended the lectures and laboratory during the session of 1879-80, and the number of those who had passed the Minor and Major examinations.

THE SOLICITOR'S REPORT.

Submitted by the General Purposes Committee, showed that a penalty had been recovered from W. Day, 152 High Street, Southampton, an unregistered person, trading as the "Southampton Drug Company," and that Jacob Humphries, Mill Top, Low Moor, Bradford, Yorks, had paid a penalty and costs. Other cases were in hand.

THE PROPOSED BILL FOR REGULATING THE SALE OF POISONS.

The Council then went into committee to consider a report of a deputation which recently waited on the Home Secretary in reference to the sale of poisons.

After considering the report of the deputation it was resolved that the correspondence preceding it and the report should be published. By a letter from the Home Office on March 21 the Home Secretary invited suggestions from the

Council for the amendment of the law relating to the sale of poisons. The Council having taken the subject into consideration, the President wrote on April 5, suggesting the following:—

1. Further restrictions on the sale of medicine containing poisons dispensed from ordinary prescriptions are *not* necessary and not practicable.

2. The sale by *wholesale* of certain virulent poisons, *e.g.*, strychnine, aconitine, and all poisonous vegetable alkaloids and their salts, might with advantage be placed under greater restrictions.

3. The sale of proprietary and so called patent medicines containing poisons should be placed under the same restrictions as the sale of other medicines containing poisons.

The amendment of other sections of the existing Acts (Pharmacy Acts, 1868 and 1869) seems also desirable, and in reference to these, as well as to suggestions 1, 2, and 3, I may state that I shall be happy to attend personally with one or two of my colleagues at any time convenient and explain more fully the views of the Council of this Society if the Secretary of State should desire further information.

The Home Secretary then expressed his thanks to the Council, and asked the deputation to meet him at the House of Commons on Friday, April 21, after question time. The deputation, consisting of the President and Vice-President and Messrs. Bottle, Carteighe, and Hampson, and accompanied by Mr. Barker (of the firm of Savory & Moore) and Mr. P. Squire (those houses having been also asked for suggestions by the Home Secretary), waited on Sir W. Harcourt, as appointed, and after explaining their views to him suggested that they should formulate them in a memorandum, to which Sir W. Harcourt readily assented. The memorandum was as follows:—

Suggestions for the Amendment of the Law Relating to the Sale of Poisons
(Pharmacy Acts, 1868 and 1869).

1. Misapprehension having arisen respecting orders written by medical practitioners for poisonous drugs, to be used by themselves, it is desirable that the sale by *wholesale* of certain virulent poisons, *e.g.*, strychnine, aconitine, and all poisonous vegetable alkaloids and their salts, as well as the other poisons in Part I of Schedule A to the Pharmacy Act, 1868, should be placed under greater restrictions. That is to say, the seller by *wholesale* should be required on every such sale to record in writing the name of the article, the quantity sold, the name and address of the purchaser, and the date of the sale. Such documents to be preserved by the vendor for at least 12 months.

2. Now that more potent and seductive preparations are sold in the form of, and under the protection accorded to, *patent medicines*, it is desirable to provide greater safeguards to the public respecting them. With this object the sale of patent medicines containing poisons should be placed under restrictions, as is the sale of other medicines containing poisons.

This might be accomplished by repealing so much of Section 16 of the Pharmacy Act, 1868, as allows patent medicines to be sold without restriction, and enacting that all such medicines containing poisons shall be labelled by the maker with some such notice, as "This preparation contains poison, and must be used with care."

In the case of such medicines being imported from any foreign country for sale in the United Kingdom the onus of so labelling should rest with the importers.

3. Having due regard to the safety of the public in the matter of the proper qualification of persons to whom is entrusted the duty of selling, dispensing, or compounding poisons, it is desirable to enforce a certain course of technical education and training prior to the qualifying examination of those who are to be registered as qualified to sell and dispense poisons and poisonous medicines, and more effectually to prevent the sale and dispensing of poisons by persons not so educated and trained, and consequently not registered.

4. It is unnecessary and impracticable to further restrict the sale, by *retail*, of poisons, or the sale of medicines containing poisons, dispensed from ordinary prescriptions.

SALE OF POISONS BY AUCTION.

Mr. BUTT moved that the Secretary should prepare for publication a memorandum of the proceedings taken by the Council to prevent the sale by auction in Holloway of a large quantity of poisons. It appeared that at the auction in question a quantity of poisons, the stock of a co-operative society which had failed, was to have been offered for sale in lots, but in consequence of the action of the Council these lots were withdrawn.

The next business was to consider a letter received from the Privy Council, and to draft a reply thereto.

Mr. WILLIAMS moved that the matter should be considered in committee.

Mr. WOOLLEY and Mr. HAMPSON opposed this course

being taken, but on a division after some discussion they alone voted for discussion in open Council.

The matter was accordingly discussed in committee, and on the open meeting of the Council being resumed it was moved by Mr. CARTEIGHE, seconded by Mr. YOUNG, that the letter which had been decided upon in committee should be forwarded to Mr. Peel, at the Privy Council Office, and that a copy of it should be entered on the minutes of the Council. The motion was carried by 10 votes against 1. Mr. Schacht being the only opponent.

Mr. RADLEY moved—

That the President of the Council be requested to push in the "Society's Journal and Transactions" so much of the proceedings of the General Purposes Committee as he may deem desirable.

He said that there were many subjects mentioned in the report of the Committee which were of great interest to the trade, and which ought to be made public. He had sometimes heard it said that the Council had very little to do, and that it did not take any interest in the business of the trade. As some discretion was required in the matter, he proposed to leave the President to decide what portion of the minutes ought to be published.

The motion having been seconded by Mr. GOSTLE, Mr. ANDREWS said he doubted whether it was quite right to throw such responsibility upon the President.

Mr. WILLIAMS supported the motion, and said he had several times during the past six years made a similar proposition, but had always failed to carry it.

The PRESIDENT thought they might safely leave it in the hands of the President and Secretary to make a few useful notes from the minutes, so that they might show their constituents the large amount of work which the Council did, which at present was heard nothing of.

The motion was agreed to.

The report of the examiners for England and Wales for April showed that of 24 Major candidates 8 passed and 16 failed, and that of 132 Minor candidates 56 passed and 76 failed.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on May 3, Dr. C. R. C. Tichborne in the chair.

After reading the minutes a smart discussion took place, in consequence of Mr. Pring and Dr. Whitla, who had not been present at the previous meeting, warmly protesting against the decision of the Council in reference to the certificate of Mr. Carsc. The President said he objected to the minutes as incorrect. Mr. PAYNE said the minutes were correct, but incomplete. He desired the report of the Committee on which the Council should appear on the minutes. Ultimately the minutes were signed, and Dr. Whitla intimated that he should give notice of a motion to question the legality of the Council in reference to the certificate in question.

Mr. FENNEL mentioned that Dr. Whitla had written to the society a copy of his recently-published "Pharmacy and Materia Medica." A vote of thanks was passed to Dr. Whitla, the President remarking that the work was one of the cleverest that had appeared on those subjects for a long time.

A letter was read from Mr. H. A. Macaulay, Coleraine, announcing that in the appeal case of Mr. W. J. Baxter, who had not been present at the previous meeting, heard on April 17, the previous conviction was affirmed, but the Recorder reduced the fine from 5*l.* to 3*l.*, without costs, as he considered the case one of first impression. He had given a careful judgment, a verbatim report of which had been taken, and would be furnished to the Council.

PRESIDENT: What does the Recorder mean by "first impression"?

Mr. FENNEL: The Recorder thought that the case was not very well known in the provinces. That, I think, is what he meant.

PRESIDENT: It seems extraordinary that although we have succeeded the amount of the fine should have been reduced on an appeal from an offending party, and no case allowed. We can do nothing; but perhaps Mr. Payne can say something about it.

Mr. PAYNE said that in accordance with the directions of the Council he was present at the hearing of the appeal. The judgment of the Recorder appeared to be very satisfactory; but a magistrate who sat on the Bench with the Recorder, and who had heard the case originally, gave the Recorder to understand that the magistrates were under the impression that 5*l.* was the only penalty they could inflict, and that they inflicted it in order to enable Mr. Baxter to appeal. Therefore the Recorder said he would reduce it to 3*l.* The solicitor for the Society applied for costs; but the Recorder said that as the Act was quite new, and not well known through the country, he thought the ends of the Council would be gained by having the conviction recorded without costs. He (Mr. Payne) would request the Council in future not to ask him to act as public prosecutor.

The PRESIDENT said the Council were under a load of obligation to Mr. Payne. No doubt the position in which he had placed him was an invidious one. They trusted, however, that he would always help them with his advice.

Mr. PAYNE said he should have no objection whatever to sharing with the other members of the Council in the responsibility of such proceedings.

The Registrar read a correspondence between Messrs. Boyd Goodwin, of 6 Merrion Row, Dublin, and himself, in reference to the position of that firm. On April 19 Mr. Fenl wrote to that firm, the qualified proprietor of which had died, asking by whom the business was conducted, it having been stated that the representative of the late Mr. Goodwin had no interest in the business, and that the surviving partner held no qualification. A similar communication was addressed to Mr. John R. Elliott, L.P.S.I., who is at present managing the business of the late Mr. Savage, of the Medical Hall, No. 4 Mall, Waterford, asking particulars as to the present proprietors of that establishment. The reply from Messrs. Boyd & Goodwin, dated April 24, stated that their business was carried on by the surviving partner under the supervision of a duly-qualified pharmaceutical chemist. Mr. Elliott's reply, dated April 27, stated that he was not proprietor, but was managing the Medical Hall, Waterford, for the present proprietor, Mr. Savage.

Mr. Muncker read a report from the Law Committee in reference to the two cases mentioned and another. It contained reference to the case of Messrs. Boyd & Goodwin and to the surviving partner was unqualified, the committee of prescriptions by that firm was illegal, and recommended that a letter should be addressed to that firm, compelling them to discontinue the compounding. It was recommended that a similar letter should be addressed to Messrs. Gilleau & Boyd, of Bride Street, there being reason to believe that the practice of dispensing was carried on by them. The Committee were of opinion that the letter to Mr. Gilleau & Boyd respecting the establishment of the late Mr. Savage did not give sufficient information.

Dr. MONTGOMERY: We ought to show a most decided opinion against any evasion of the law. Six months are allowed for firms to make proper arrangements after the death of a qualified member, and, if that be not done, we are not to allow any feelings to interfere, but should insist on the law is, and tell the parties that it must be complied with.

The commendations of the Law Committee were

PRESIDENT: My notice of motion comes next,

That Rescoe's "Experimental Chemistry" (Part 1) be substituted for Rescoe's "Chemistry" (Science Primers) in the Preliminary examinations.

Mr. Reynolds was a member of our Council, and is a chemist whom we all feel proud. He has written a book which is of the same character, and to some extent the same as Rescoe's "Chemistry." It fulfils exactly the same function as Rescoe's "Chemistry," and is in my opinion a better book than Rescoe's; and I think that when we have a work published in this city which is quite up to the mark for our purposes, we ought to give it the preference, and be true to ourselves in small matters as well as in more important ones. I therefore move the resolution.

Resolved: I second the resolution with great pleasure. Mr. PAYNE: I agree with you that the adoption of Dr. Reynolds' book is a step in the right direction, and that

when we have so good a book published in this country we should adopt it. At the same time I think the resolution should not take effect until January 1 next, so that men who are preparing under the present regulations will not be interfered with.

PRESIDENT: The examiner could take whatever book the candidate has prepared himself in for the present. At the same time Mr. Payne's suggestion is a very proper one.

It was accordingly resolved that Dr. Reynolds' "Experimental Chemistry" should be adopted from January 1 next.

Mr. PRING asked had not some members of the Council been appointed to attend the examinations, and had they given in any report?

PRESIDENT: I do not think they were to give a written report unless they thought it necessary to do so.

Mr. PAYNE said a Committee of the Council was appointed to attend the examinations, but they were not summoned for the first examination, which was held last January, and consequently did not attend. He (Mr. Payne) and Mr. Allen were selected to attend the April examination, and did so. They remained during the whole examination. It was not part of the instructions to the Committee to furnish a written report unless they saw something in the examination which they considered not up to the standard.

The PRESIDENT remarked that any small matter that attracted the notice of the Committee could be dealt with by a verbal communication to the examiners. If there was anything important a notice of motion should be given in the Council about it, but it was not desirable to interfere with the examiners if it could possibly be avoided.

Some routine business having been disposed of, the Council adjourned.

Metropolitan Reports.

FIRE.—On April 9 a fire seriously damaged the building occupied by Mr. J. Whatman, chemist, 230A Kentish-town Road.

ROBBERY AT MR. RIMMEL'S.—At the Clerkenwell Police Station, on April 13, John Manley, warehouseman, was charged with stealing scent, soap, and other articles from his employer, Mr. Eugene Rimmel, of the Strand; and Frederick Gardiner, commercial traveller, Islington, and William Ward, builder, Hammersmith, were charged with feloniously receiving the same, well knowing them to have been stolen. Mr. Barstow sentenced Manley to six months' hard labour, and Gardiner and Ward to six weeks' hard labour each.

BREACHES OF THE FACTORY ACT.—William Hearn, mineral-water manufacturer, of 23 Piercefield Street, Kentish Town, was summoned at the Marylebone Police Court on May 8, for unlawfully employing in his factory a youth named Charles Taylor after two o'clock in the afternoon of Saturday, April 8, contrary to the provisions of the Factory Act. The lad was wiring lemonade-bottles when the inspector visited the works, and the defendant practically admitted the offence.—Mr. de Rutzen inflicted a penalty of 40*s.*, with 4*s.* costs.

SOUTH LONDON SCHOOL OF PHARMACY.—The prizes awarded at the examinations held on April 4, 5, 13, and 15 were presented to the following successful competitors on the 25th ult.:—Medals: Chemistry, Mr. Forster; Botany, Mr. Woollons; Materia Medica, Mr. Burton; Pharmacy and Practical Dispensing, Mr. Birkbeck. Certificates: Chemistry, Mr. Woollons; Botany, Mr. Forster; Materia Medica, Mr. Dillon; Pharmacy and Practical Dispensing, Mr. Burton. Extra Certificates of Merit were awarded to Messrs. Hornby, Roberts, Davies, Heald, Reade, Oldershaw, Brunton, Naylor, Capper, Wright, Tucker, Taylor, and Mills.

DANGEROUS COSMETICS.—A respectably-dressed young woman, whose face was very much disfigured, applied for advice at the Thames Police Court on April 12. She stated that she had had a slight rash upon her face, and, wishing to get rid of it, she went to a local chemist, who prescribed a lotion, which he made up and charged her half-a-crown for. She used this for several days, the result being that her face

gradually got into its present state. She next went to a properly qualified medical man, and he informed her that her face was poisoned, this having been undoubtedly caused by the lotion she had been applying. The magistrate told the applicant that he was very sorry, but he could not help her. She had better bring an action against the chemist, and she would doubtless get damages.

NARROW ESCAPE OF A CHEMIST.—Sir John Humphreys resumed an inquiry at Stepney on April 17 respecting the death of Charles Ray, aged ten years. The mother of the deceased now stated that on March 25 the deceased went to Victoria Park, and on his return he said he had fallen over a stone and hurt his thigh. On the 27th he complained of feeling unwell, and witness went to a Mrs. Rogers, the wife of a chemist in the neighbourhood, described the symptoms, and obtained from her a half-bottle of "mixture," for which she paid 2d. This mixture seemed to do him no good, and on the 29th the boy became delirious. Witness afterwards called in Dr. Riley, who prescribed for the deceased, and gave witness a lotion to rub him with. The boy, however, got rapidly worse, and died on the 30th. Dr. Riley stated that after that evidence he had no hesitation in saying that death arose from natural causes, and a verdict to that effect was accordingly returned.

A DISPENSING ACCIDENT.—On April 8 an inquest was held at Wandsworth on the body of Miss Annie Hall, a lady whose death had occurred under lamentable circumstances. Her brother, Colonel Hall, gave evidence that on the morning of March 24 the deceased was seized with violent sickness. He sent for Dr. Hooper, who attended her until her death on April 4. The vomiting seemed to have resulted from a dose of medicine which the deceased had taken. Dr. Hooper went to Mr. Bell, chemist, Bank Buildings, Wandsworth, and was there shown a bottle containing some of the fluid which had been used in making up the medicine. This fluid Dr. Hooper found was acid nitrate of mercury, and the lady died from its effects. The medicine prescribed for her was a tonic. She was a weakly woman, but not unhealthy. Mr. Matthew Whitelock Bell, chemist, of 9 Bank Buildings, Wandsworth, deposed that on March 24 last, about ten in the morning, Colonel Hall brought him a bottle of medicine which he said had been prepared by witness's assistant on the day previous, and of which a dose had made the deceased very sick. Witness said he would make up a bottle according to the prescription himself. He did so, and tasted both mixtures, and Colonel Hall had scarcely gone out of the door before witness was very sick, when he began to think there must be something wrong with the preparations or with the drugs themselves. He tasted the contents of one of the bottles of drugs and found it was a strong acid solution, which proved to be acid nitrate of mercury. He subsequently went to Messrs. Hearon, Squire & Co., of 5 Coleman Street, City, from whom he had purchased the preparation, taking the bottle with him which was labelled, "Per Nitrate of Iron." He saw Mr. Squire, who at once pronounced its contents to be a solution of mercury. Witness then informed Mr. Squire that he had it from their firm on July 1 last. Mr. Squire called the assistant, who he thought had put the bottle up, and asked him how he could have made such a stupid mistake. He said it was so long ago that he could not remember anything about it. Henry Giles, assistant to Mr. Bell, deposed to making up the prescription. He was the first to open the bottle labelled "Per Nitrate of Iron." The jury returned a verdict of "Death from misadventure," and censured the wholesale druggist, but exonerated Mr. Bell and his assistant from all blame in the matter. The representative of Messrs. Hearon & Squire stated that in the course of their business, which had extended over a number of years, such a mistake as this had never occurred, and every precaution was taken to prevent such errors arising.

LICENSING ACTS IN AUSTRALIA.—The Sydney correspondent of the "Australian Supplement" to THE CHEMIST AND DRUGGIST relates an amusing incident that occurred lately before the Licensing Board. A publican was charged with opening his house for the sale of liquor during prohibited hours. The plea was that the customer (a woman) merely came for a dose of castor oil. The Bench, however, ruled that the publican should not sell that or any other beverage in a jug on Sundays.

Provincial Reports.

BIRKENHEAD.

TESTING THE ANALYSTS.—The Birkenhead Town Council having been defeated in a case under the Sale of Food and Drugs Act, in which their own analyst (Dr. Vacher) had reported a sample of coffee to be adulterated with 27 per cent. of chicory, while Somerset House declared the sample to be pure, referred the matter to a committee. The committee, apparently at the suggestion of Dr. Vacher, had some samples of chicory and coffee mixed in known proportions, and submitted them for analysis to several chemists, with the following result:—

Percentage of Chicory actually mixed with the Samples of Coffee forwarded	A 10 per Cent. Chicory	B 30 per Cent. Chicory	C 1 per Cent. Chicory
E. W. T. Jones, Wolverhampton ..	7 p.c. chicory	31 p.c. chicory	p.c. chicory
A. Smetham, L'pool	7 p.c. chicory	32 p.c. chicory	p.c. chicory
Somerset House ..	23 p.c., not more chicory	35 p.c., not less, chicory	p.c., not less chicory
Dr. Davies, Liverpool	5 to 10 p.c. chicory	25 p.c. chicory	p.c. chicory
Dr. Carter Bell, Manchester ..	10 p.c. upwards of chicory	30 p.c. upwards of chicory	p.c. upwards of chicory
Dr. Dupré, London ..	16 p.c. chicory	35 p.c. chicory	p.c. chicory
Dr. Vacher ..	Genuine	31 p.c. chicory	p.c. chicory

On the above result the Committee had a recommendation to the Council that in future arrangements other than the present should be made for conducting analyses for the borough under the Sale of Food and Drugs Act. The Council, after a lively discussion, agreed to the recommendation.

EDINBURGH.

FISHERIES EXHIBITION AT EDINBURGH.—A highly successful exhibition of articles relating to the fishing industry has been held in Edinburgh during the past month. We extract the following notice relating to the cod-liver oil exhibit from the *Scotsman*:—"John Bruce, jun., of Shetland, sends a sample which, although not noticed by the judges, so approved itself to a large dealer that he at once bought up the whole quantity that the exhibitor could offer for sale. At Eyemouth there are three makers, but only two are here represented—Thomson & Cormack & Sons and James Crawford. This supply of fish has necessarily been greatly affected by the loss of so many boats last year. One exhibitor in the class are Carr & Son, Berwick, who show oil of different degrees of purity. In its clarified state the oil is used in several industries, including that of the candlemaker; and it appears that after the whole of the oleaginous matter is extracted from the fish, these are dried and ground and a liquid made of them, which is, however, not much in request in the country, though small farmers about Berwick use some of it on their land. Samples of haddock oil are likewise shown by Messrs. Carr. This oil, which is of a fine colour, is also used for medicinal purposes. It is, however, bought by carriers, who find it a suitable oil for lubricating leather. Messrs. Carr have been fortunate in winning a medal for their collection. Mackenzie & Co., Edinburgh, who have made cod-liver oil a speciality, show samples of Norwegian manufacture, as well as bottles of their compound emulsion—a preparation of the oil, being mixed with pepsine and hypophosphite of lime, is rendered more pleasant to the palate. The exhibitor also submit, in their "aromatic cod-liver oil," of preserving the oil from becoming rancid, and it for use in warm climates. A sample 25-gallon cask and in which the oil is exported, are also exhibited shown by James Graham, Glasgow; Grant & Southhall Brothers & Barclay, Birmingham; Aberdeen; and George D. Moffat, Edinburgh, who is a local manufacturer, whose oil has been used for many years. There are four Norwegian exhibitors."

may be said, generally, that, in the opinion of competent judges, a better display of oil has never been seen in any exhibition. Some dissatisfaction has been expressed by certain exhibitors that an analytical chemist was not included in the list of judges; it being contended that only by chemical tests can the value of the oil for medicinal purposes be satisfactorily demonstrated.

HOLBEACH.

ASHOKING DEATH.—At the Holbeach Union, Lincolnshire, a young man named Ringham was placed in a dissecting apparatus to cure a skin disease, sulphur being buried under the box. The deceased complained of the heat, and said he should die if not taken out. Two persons who were in the room represented his condition to the master, who, it is said, refused to take him out, and left the room. When he returned the man was insensible, and apparently dead. He lingered, however, until April 19, when he died. At the inquest, held on April 22, it was stated that too much sulphur was put into the box, and that the heated irons applied to the sulphur were too large, causing the flame to reach to the bottom of the box in which the deceased stood. The medical officer of the Union stated that Ringham had died from the effects of the burns. A verdict of manslaughter was returned against the master of the house.

LIVERPOOL.

DENTAL DEATH.—On May 6, a porter named Yore, in the employ of Mr. Johnson, chemist, Church Street, was taken to the loft for some sacks. When returning he fell through the folding-doors in the loft to the warehouse floor on his head, a distance of about 8 feet. He was taken unconscious, and died while being removed to the Northern Hospital.

NOTTINGHAM.

THE NOTTINGHAM AND NOTTS CHEMISTS' ASSOCIATION.—The honorary secretary of the above has given notice of motion to propose an alteration in the bye-laws in order that the Association may become a trade and protective, as well as an educational, body. It is also proposed that an annual subscription shall be given from the funds to the Birmingham Trade Association.

ROCHDALE.

FATAL EXPLOSION OF CHEMICALS.—A fatal explosion occurred on April 19 in the premises of Mr. William Riley, dyer, Castleton, near Rochdale. Mr. Riley occupies the lower rooms of the premises, and on the morning in question, about eleven o'clock, he and his son Charles, aged about 4, were engaged rolling a barrel of iron liquor along the side of the building. The end of the barrel was pushed against a wall, one of the hoops was knocked off, and coming in violent contact with some potash which was lying close by, a terrible explosion occurred. The whole of the back walls and the gable end walls were blown down, and father and son were buried in the ruins. The lad managed to extricate himself, and Mr. Riley was released from his painful position by a crowd of people whom the noise, which was described as being thunder-like, had attracted to the spot. Both were fearfully burned, and were at once conveyed home, and medical assistance was at once procured. A child, playing near the building, was partly covered with bricks and its head was crushed. It only lived a few minutes. Mr. Riley died on May 1, and his son lies in a precarious state. Another account states that the cask they were moving contained chlorate of potash; it slipped from their control and dashed against the wall, the explosion following immediately. Neither explanation is intelligible, as the chlorate unmixed cannot explode. The accident will be investigated by the Home Office. The inquest has been adjourned till May 24.

THE MICROSCOPE, AND SOME OF ITS RECENT REVELATIONS.

A Paper read before the Nottingham and Notts Chemists' Association, February 23, 1882.

By JOHN ROGERS, F.R.M.S.

A QUESTION which every microscopist has to answer many times is, What does a microscope cost? The best answer is, perhaps, that an ordinary instrument costs from 10s. to 10l., and a superior instrument from 10l. to 400l. There are two items of considerable expense—the stand and the object-glasses. The stand may include mechanical work of a costly kind. The best stand, alone, by Ross, Powell & Lealand, or Beck, will range from 35l. to 45l., while the American Folles-Blackman stand is 63l. A set of 14 object-glasses, from 4 inches to $\frac{1}{2}$ inch, by the same makers, may come to nearly 130l., and a set of 14, by Folles, 4 inches to $\frac{1}{2}$ inch, will be about 215l., while the highest power made by Spencer or Gundlach are 50 guineas each. There are microscopists distinguished for their attainments and discoveries whose instrument and apparatus would not exceed 10l. in value, while others use an outfit that could not be purchased for less than 500l. More depends upon the knowledge and skill of the person who uses the instrument than upon its cost, and the fact remains that the greatest discoveries have been made with instruments of comparatively small price. The great Leeuwenhoek made every part of the instruments he used with his own hands, and they contained only a single lens each. The illustrious Lieberkuhn, also, made his own instruments. The microscopes of both these celebrated men can be seen in the collection of the Royal Society and the Museum of the Royal College of Surgeons, and, except as a curiosity, they are all of small money value. The great discoveries of Ehrenberg, in the present generation, were all made with a modern microscope that would not cost 5l. On the other hand, a century ago, a microscope of wonderfully fine workmanship, worth 100l., was made for King George III., yet neither the King, nor anyone else, has done work of any value with that instrument. Early in the present century two object-glasses were made with lenses of diamond, of immense cost, yet with these no discoveries were made that have lived to the present day.

Another question constantly asked is, "What is the power of this instrument? How many times does it magnify? And the questioner's admiration is usually in proportion to the number of figures contained in the answer. This folly has been played upon to a large extent by the charlatans who make cheap magnifying glasses, and advertise them as "Microscopes that will reveal monsters in a drop of water; show the human skin to be covered with hairs, like a forest of pine-trees; and under which parasites are seen walking about on a leaf like cows in a pasture." A most absurd statement on the face of it! No microscopist answers the question in this form. A cubical magnification of 1,000,000 times is an enlargement of 10,000 in superficial area, and is precisely the same thing as 100 diameters. Magnifying-power is always spoken of, by those who know anything about it, by the number of diameters. As a general rule, it may be understood that object-glasses which give, with the A, or 2-inch ocular, the following amplifications (represented by the actual focus of a single lens) are classified under their nominal focus, as:—

Low powers, 10 to 75 diameters, 5 in. to $\frac{3}{4}$ in. objective	
Medium powers, 100 to 250 " $\frac{1}{2}$ " $\frac{1}{5}$ "	
High powers, 300 to 1,000 " $\frac{1}{6}$ " $\frac{2}{5}$ "	
Very high powers, 1,250 to 4,000 " $\frac{2}{3}$ " $\frac{3}{4}$ "	

It is a common error to make the value of a microscope depend exclusively upon how much it will magnify. The most worthless instrument may magnify highly, but magnifying-power alone is of small value, for more can be seen with a good instrument and a power of 100 diameters than with a poor one of 500: the important point is what will a microscope show. This will depend partly upon the objective, but also quite as much upon the observer. An uneducated and untrained eye will see little of what is before it, and will only partially understand that little. For instance,

BILIOUS HEADACHE WITH FLATULENCE.—

Magnes. sulphate	..	..	..	..	5vj
Magnes. carbonat.	..	..	..	..	3i
Tinct. lavand. co.	..	..	..	..	3i
Aqua menth. pip.	..	..	..	..	ad 3viij

M. G. A sixth part to be taken early in the morning, and repeated as may be necessary.—*Canada Med. and Surg. Jour.*

the entire field visible with 1,000 diameters is $\frac{1}{150}$ inch across, and occupies a space ordinarily invisible to the naked eye; it requires skilful manipulation to place an object within so small a field at all. With 750 diameters it is impossible to see the whole of the foot of a fly; you might see a single claw or a single pad, but without some knowledge of the structure of a fly's foot, as a whole, no clear ideas could be obtained with such high powers. This is one reason why high powers cannot be shown with any advantage to general observers.

Another reason why low powers only are of use to untrained eyes is, that the depth perspective decreases very rapidly, and beyond 1,000 diameters the microscopic image of solid objects passes more and more into pure transverse sections, and any appreciable depth of focus ceases; at the same time the magnification of the depth seen increases in inverse proportion to the diminished diameter. As you approach 1,000 diameters difficulties commence with regard to the light, and lamps, prisms, or condensers of the best construction become necessary, and require to be used with great skill. At this point, also, specially-prepared objects, to lie accurately in the same plane, are absolutely needed, and glass covers, $\frac{1}{200}$ inch thick, become difficult to work; glass of extreme tenuity, of $\frac{1}{100}$ inch, and the thinnest films of talc become useful with water immersion, then glycerine, oil, and lastly homogeneous fluids of the same refractive angle as the densest glass, with immersion condensers to correspond. Working on this line 10,000 or 15,000 diameters may be reached, with a loss at every step. It is claimed that modern amplifiers will bring this up to 32,500, but it is not easy to see, and sunlight is necessary to see anything; while even 100,000 has been spoken of as possible, but it is doubted if, even with the electric light, anything whatever can be revealed with such excessive amplification.

In the opinion of the most accomplished manipulators there is a line beyond which nothing is gained by higher amplification. Amici and Sir John Herschel considered this limit to be 3,000 diameters. Hartnack has never shown anything better than at 3,000 diameters. Nobert's 19th band was first resolved with 550 diameters, and Dr. Woodward, of Washington, photographed it with 2,000 diameters; while, with every resource of modern apparatus, he is content with 3,000 as the limit of the best results with the best objectives in the world. The Rev. W. H. Dallinger states his best results as under 4,000 diameters, and the opinion of the greatest living microscopists familiar with the highest powers is that beyond 5,000 or 6,000 diameters there is no further visible resolving-power, but that 3,000 or 4,000 will amply represent the practical limit. The highest-power objective ever made, the $\frac{1}{50}$ inch, was exhibited some ten years ago by the most celebrated maker of very high powers, and, although those present were all microscopists, not more than four out of five could see anything with it. The amplification was about 6,000 diameters, and a single mark upon a scale of the podura filled the entire field; it was a familiar object to all, but the observers were by no means unanimous as to what they saw.

A very popular question is, Will the microscope show the animalcules in water? Many of the animalcules in stagnant water can be seen by the naked eye, without the aid of any instrument, and others can only be seen with exceptional instruments. Pure spring and rain water, so far from being devoid of animal and vegetable life, in its best condition often contains rotifers, infusoria, entomostrica, diatoms, desmids, and algae, which to the microscopist attest by their characters the purity of its source and general good quality. These are invisible to the naked eye; some may be seen with a low power, but most will require a high power to render them visible. So that seeing animalcules in water is no definite test for a microscope. Powers of 15 to 20 diameters will show objects that are otherwise perfectly invisible; while 50 diameters will bring to view the most beautiful objects described in ordinary books. Leeuwenhoek made all his discoveries with powers from 40 to 160 diameters. All that can be seen by the higher powers is intelligible only to the specialist or the student of some branch of science, and the objects themselves, having no common names, are known only to scientific men.

The wise question may be asked: What will the microscope show that would otherwise be unknown? The answer

to this question is already very large, and it grows every day. It is only possible now to state some of the latest additions to our knowledge from this source.

For the detection of forgery there is no expert equal to the microscope. The examination of handwriting with a view to determine its authorship, its genuineness, its age, and whether or not it has been altered from its original form and intent, is one of the most recent uses of this instrument, and one the importance of which has but recently become known, and is even now not generally realised. In a recent case a microscopist established the date of a document by recognising in the paper fibres only recently used in paper-making, which demonstrated that the paper was manufactured at a later date than claimed by the writing upon it. Writing can scarcely be changed, after its original execution, so adroitly but that the microscope can detect the falsification. The face of the paper, when once marred by disturbing the position of the fibres, can never be restored, and hence scratching and erasure can be recognised, though performed with consummate skill. Inks, alike to the unaided eye, are marked under the lenses by conspicuous differences of shade, colour, or density. Lines which look simple and honest may show themselves as retouched, or altered, by the same or by a different hand, or pen, or ink; and lines drawn upon new paper look different from those drawn after it is old. The microscope will give valuable information as to the relative age of superimposed, crossing, or touching lines, and state positively whether lines were written before or after related erasures, or scratchings, or foldings, or crumplings of the paper. If the signature has been constructed by tracing it with pencil lines over an original, and subsequently inking it with a pen, particles of plumbago can be somewhere detected. Copied or imitated originally in ink, the distribution of ink is peculiar and suggestive, indicating hesitation from uncertainty, or pauses to look at a copy, or to recall a style, or to decide on a future course, just at points where a person writing his own name would pass over the pen most rapidly and promptly.

There is no form of forgery so difficult to detect as that of the most cunning free-hand imitations done with practised skill: yet for this there is a test, which is entirely and alone within the province of the microscope. A genuine signature is automatic: no close attention of the will is required, and there is a minute rhythm caused by the action of the small muscles, in regulating the amount of pressure upon the pen; it is quite imperceptible to the naked eye, and cannot be accurately determined by a simple magnifier. These variations of pressure differ with individuals from 200 to 300 to the inch, and are as regular as they are spontaneous and involuntary. When a man writes naturally the pressure variations are rhythmic, while, on the contrary, when he is consciously imitating the writing of another, they are irregular and unsymmetrical. A matter of microscopic analysis the hand always trembles and must do while the heart beats and the nerve-impulses flow each other in rapid succession. In health this rhythm progresses in perfect and regular, but its regularity is broken by mental excitement and destroyed by voluntary effort. No forgery is impossible without one or both of these interfering agents.

There is another subject, far removed from the microscope, which new light has been recently brought by the microscope. That there are other worlds than this we know from the revelations of the telescope, and that some of these have an atmosphere and clouds; but those we can observe are so far from the sun that we know nothing of the possible conditions of life in those distant orbs, so full of interest to the astronomer and the poet. There are, however, at frequent intervals meteors which visit us from outer space, and becoming incandescent in their rapid flight through our atmosphere, are visible; not infrequently they are caught by the attraction of the earth and fall. The chemical analysis of these stones shows that of the 70 or more elements known to exist, 22 have been found and recognised, and no element has yet been found in meteorites with which we are not familiar. Quartz and felspar, so common here, are absent, while the metals, with the minerals, enstatite and olivine, constantly occur. A microscopic examination of sections of meteorites reveals evidence of organic life, both animal and vegetable. At present, corals and sponges, with about 50 species of polypes, crinoids, and algae, have been

found; in all, 130 different forms and structures have been photographed by Dr. Hahn. These celestial fossils tell us of a planet on which aquatic life was sufficiently developed to produce them, and to preserve them after death, by a process of infiltration of siliceous material, which dissolved the lime of which their structure must have consisted, so that their inorganic constituents are concerned, and supplied it by various kinds of siliceous materials, filling up all the interstices and openings which had formerly contained organic substance. This planet, therefore, must have had a comparatively long period of existence; it must have had an atmosphere, and its surface must, in whole or in part, have been covered by water. The corals would seem to show that this was a warm sea of a sunny climate, for we find corals on the earth at the temperature of 80° F. The most marked feature about these fossils is their diminutive size; the corals of sponges being so small that they are indistinguishable by the naked eye. We have here a revelation of life beyond the confines of our world, brought to our knowledge from outer space by the microscope.

Descend from cosmos to the counter. One of the plagues of modern civilisation is, that adulteration has been reduced to an art—neither food nor medicine is safe from its insidious cunning; and here the microscope provides a salutory check. In dealing with roots, the transverse and longitudinal sections, especially when their structure is differentiated by double staining, will give in minute detail certain evidence of identity. With leaves, the hairs upon the petiole and the stomata afford ample means to distinguish with positive accuracy. While with decoctions and tinctures the micro-spectroscope, carefully studied, will disclose the minutest differences of composition. With all salts the polariscope and the goniometer will classify perfectly that which otherwise may be most difficult to distinguish. And even with substances reduced to powder, the microscope examination will generally be sufficient to detect the introduction of a foreign or alien substance.

The article of food, adulteration has long had a very extensive and lucrative field. For the last 20 years a patent has been diligently worked in London by which animal fat has been cleaned and purified to a tasteless, odourless, colourless substance, which is then coloured and flavoured to resemble butter. Being exposed to a fair degree of heat in the process, the result was not objectionable as a matter of both so much as of fact and sentiment. Our cousins across the Atlantic have not been so fortunate; the oleomargarine which is largely manufactured for their use, and is sold for ours—for, in fact, a few cases have already appeared in the imports—is known to be made from refuse animal fats, in no part of the process subjected to a higher heat than 120° F. This, coupled with the result of a recent microscopical examination, suggests a grave danger.

In outward appearance, oleomargarine would be accepted by an ordinary purchaser as genuine butter. Under the microscope crystals of sodium chloride were present, not so clean and characteristic as those found in dairy butter—but here resemblance ended: crystals of sodium nitrate were prominent with another form, closely resembling cholesterol, found in considerable numbers; besides these crystals, fatty globules, totally different from pure dairy butter and suspicious cells were abundant, accompanied by shreds and tissue fibre in patches, many in a broken-down condition, with elementary fibres detached, and a form strongly suggestive of encysted hydatids, thus forming a medium for the introduction of entozoa and ectozoa of the most dangerous class. A thorough microscopic investigation of oleomargarine is impending in the United States, when the manufacturers of this article are in operation on the most extensive scale. An adulteration of the same class is imported into this country from Germany and France, under the name of butterine. In appearance and taste it will pass for butter, but, as it is certainly made from animal fat, its difference from oleomargarine is merely a matter of quality, or possibly of name only, and the substance well deserves attention at the hands of the analyst and microscopist.

For analysis the microscope is invaluable; it makes possible a series of examinations with the most minute quantity of material. Take, for instance, a suspected blood stain from which the $\frac{1}{250000}$ part of a grain can be scraped with a knife; place this on a glass slip, with a microscopic drop of glycerine, to give a solution of hæmoglobin, with

100 diameters and the micro-spectroscope the spectra of blood may be observed and modified, for confirmation, by a mere dot of solution of sulphuret of sodium; by moving the stage the coloured fluid will be partly drained away, and, if the specimen be blood, with 1,200 diameters and an eyepiece micrometer the corpuscles may be measured accurately enough to discriminate between human blood and that of an ox, pig, horse, or sheep; and lastly, the minute blood-stain may be wiped off the glass slide on to a slip of moistened white blotting-paper; drop upon it fresh tincture of guaiacum, and then a drop of ozonised ether, which will at once strike the dark-blue colour of the guaiacum test for blood. In this way may be obtained three kinds of evidence:—

Spectrum analysis;

Microscopic measurement; and

Chemical reaction from a single particle which weighed less than $\frac{1}{250000}$ th part of a grain.

The micro-analysis of poisons has been ably treated, with regard to chemical reaction, in several important works; but when the quantity is very minute or much diffused the microscope furnishes a remarkably delicate test of the presence of poisons when they are in too minute quantities to answer any chemical test, especially those poisonous alkaloids for which no chemical test is known. Take a drop of water containing infusoria, place it upon a glass slide, and examine carefully, noting their size, form, and colour. Then place a drop of the suspected solution at the edge of the fluid containing the infusoria. If organic poisons be present, the infusoria are instantly destroyed, and become a formless sediment. Professor Rossbach, of Vienna, states that: "If a drop of water containing infusoria and weighing the $\frac{1}{1000}$ of a grain be used, the quantity of strychnine required to cause remarkable changes will be $\frac{1}{1000000}$ of a grain. In this way the $\frac{1}{15000000}$ th part of a grain of atropine can be detected." Thus, if the stomach of a person poisoned by strychnine contain a litre of fluid and only $\frac{1}{4}$ of a grain of the alkaloid, a single drop of this fluid will contain 40 times as much strychnine as is necessary for the test.

In this paper an endeavour has been made to answer some of those questions which occur whenever a microscope is shown, and to bring forward a few of the latest additions to our knowledge from its use. The microscope is now recognised to be indispensable to the physician and the surgeon. The age of ignorance, in which it was regarded as an instrument belonging to magic rather than to science, is past, and the period of half-knowledge which persisted in regarding it as a curiosity or a toy is passing away, and there can be little doubt that in the future some familiarity with its use will be absolutely necessary for the chemist, for whom it will verify facts and act as a protection from those frauds and adulterations which are never more mischievous and dangerous than when introduced into the chemicals and drugs for whose genuineness and purity the chemists and druggists of to-day have such an honourable reputation, that the lives of others are constantly confided to their knowledge and skill with absolute confidence and perfect safety.

COMPARATIVE TESTS OF PHENOL, CRESOL, AND CREASOL.

By W. H. HARDY, Clinton, Iowa.

THIS paper, which has been sent to us by the author, was read at the third annual assembly of the Iowa State Pharmaceutical Association, held at Des Moines, Iowa, February 14 and 15, 1882, and, we believe, has not been previously published:—

How many pharmacists are there doing business in this State to-day that could recognise the difference between carbolic acid, cresylic acid, and creasote, and how many are there that, presuming them competent so to do, would take the trouble to apply the chemical test?

It was during a conversation with a gentleman who has long been recognised as a prominent pharmacist among us, that the above questions were put to the writer, and it was, while left meditating upon their comparative analogy, that

the idea of making some chemical researches of the hydrocarbons named was conceived, the outgrowth of which will be found in the appended table, and, because of its compactness, it is to be hoped may prove of general utility as a ready reference for the chemical manipulant.

Tests innumerable are given in the various works which have been consulted largely in the selection of the following, but in compiling this article, which is simply the notes of laboratory work, the chief aim has been to bring forward only the most distinctive and characteristic tests, and as the reagents used as well the carbolic acid, cresylic acid, and creasote experimented upon, were as nearly pure as were obtainable, the cresylic acid having been distilled from the crude phenol expressly for the occasion, the writer is enabled to verify the authenticity of the tests, since they are the result of precision in personal manipulations.

As in commerce, the pharmacist understands full well the difficulty with which a pure article of creasote is obtained, the article usually being an admixture of, if not wholly, carbolic acid; and as each—carbolic acid, cresylic acid, and creasote—are members of a homologous series (i.e. a series the members of which differ only through the atomic equivalent of the same element), and as their similarity in chemical reactions with numerous reagents in many instances is so great as to lead the impractical to a possible confusion of results, the comparative ease with which one can be placed upon the market, substituted for the other, and sold without detection, is readily comprehended; a brief *resumé* of their physical appearance may be pertinent.

(a to l.) Phenol was discovered by Runge, who ascribed to it the name carbolic acid; and it has been demonstrated by Laurent that to quite an extent it plays the part of an alcohol, resembling the monatomic alcohols in many essentials, yet differing from them through its acid properties, by which it obtains its name, phenic acid. Phenol is produced from dead oil, coal-tar.

Cresol, or cresylic acid, is a compound which exists with phenol in the coal-tar creasote, and may be obtained by fractional distillation. There are three cresols; two solid, one liquid. They may be produced artificially by treating toluol with hydriac sulphate (H_2SO_4); but in this reaction several isomeric sulpho-conjugated acids are formed, which, when decomposed with potassic-hydrate, yield cresols differing largely.

Creasote was discovered by Reichenbach, and is a product of wood-tar. It is more abundant in the heavy oil beech tar obtained from wood-vinegar products. It is separated and prepared by a series of processes similar to those in the preparation of phenylic acid from coal-tar.

Phenylic acid is a solid, and forms in colourless, needle-like crystals, fusing at 35.3°C ., forming an oily liquid of great refractive and dispersive powers, and has a peculiar characteristic odour, an acid, burning taste, and marked antiseptic properties. It is neutral to test-paper, and is soluble in from 18 to 20 parts water, and in all proportions in alcohol, chloroform, ether, naphtha, and carbon bisulphide. It has a specific gravity of 1.065, and does not disturb a ray of polarised light.

Cresylic acid is a colourless, limpid liquid, and like phenylic acid is neutral to test paper, soluble in naphtha, chloroform, ether, alcohol, and carbon disulphide, boils at 203° (a higher temperature than phenylic acid), and is soluble in 34 parts of water. It reacts with phosphorus pentachloride, potassium, sulphuric, and nitric acids, in like manner to phenol.

Creasote is a colourless, limpid, somewhat viscid and oleaginous liquid, having even stronger refractive and dispersive powers than carbolic or cresylic acids, and a peculiar, penetrating, smoky odour, with pungent, insupportable taste. It has a specific gravity of 1.037, and its boiling point is 205° ; it readily dries up at 100° . Unlike phenol it turns a ray of polarized light to the right, and is but slightly soluble, one part being soluble in 90 parts water. Since creasote commands a higher market valuation than carbolic acid, it is reasonable to suppose the article placed upon the market and sold as creasote, if an admixture would contain carbolic acid, and not *vice versa*.

(l) Collodion produces with phenol a gelatinous coagulum of gun cotton, as it does with cresylic acid, which disappears on the addition of creasote; while the nitro-cellulose from

collodion is not precipitated by creasote, which mixes readily with the ethereal solution.

(m) Albumen coagulates with phenol and cresol but not with creasol.

(n) Glycerine of specific gravity 1.23 is miscible in all proportions with phenol; equal measures of this reagent and acid are not precipitated by three measures of water, while if 20 per cent. of cresol be added, two measures of water will produce a precipitate. Glycerine is miscible in all proportions with cresol, and equal volumes of the reagent and acid are precipitated by one volume of water; creasote being insoluble in glycerine of the specific gravity 1.23.

(o) One volume phenol, cresol, or creasol, diluted with 100 volumes of water, by the addition of one drop ferric chloride yields with phenol a permanent purple colouration; with cresol like results are obtained; while with creasote a bluish-green, thin brownish-yellow colouration, which gradually fades, is produced.

(p) One volume phenol, cresol, or creasol, diluted with about 100 volumes alcohol, on the addition of ferric chloride, yields with phenol a greenish-yellow; an dirty-brown colouration; with cresol nearly identical results are obtained; while with creasol a pretty green colouration is produced.

(q) To a solution of phenol diluted with water and a few drops of a solution of molybdic acid and concentrated sulphuric acid, in the proportion of one part molybdic acid to ten parts sulphuric acid, and a yellowish-brown colour is produced, which is rapidly transformed into a purple colour. This test is greatly facilitated by temperature not exceeding 50°C . On cresylic acid the reaction is not unlike that of phenol, while with creasote the same solution produces a brownish-yellow colouration. As this delicate reaction is entirely due to the deoxygenation of molybdic acid, numerous substances conflict with the test.

(r) A shaving of wood moistened in phenol, then dipped in hydric chloride, yields, when dry, a blue colour; with cresol, a deep green; and with creasol, a greenish-blue colour is produced.

(s) Phenol is wholly soluble in equal measures of ammoniac hydrate, and the solution is not precipitated by less than 2 measures of water. Cresol is but slightly soluble (1 volume to 18 of reagent); these require 12 volumes of water to precipitate, when a crystalline scale precipitates formed. Creasote is practically insoluble in 1 volume of 75 of ammoniac hydrate.

(t u) Phenol, cresol, and creasol are soluble in both potassic and sodic hydrates, potassium forming with phenol, according to Flariantz, potassium phenate $\text{C}_6\text{H}_5\text{K}$, crystallizing in needle-like prisms; with cresol, potassium cresate; and with creasol potassium creasolate $\text{C}_8\text{H}_7\text{KO}_2 + 2\text{H}_2\text{O}$, which crystallizes in brilliant prismatic scales. This is, however, obtained with great difficulty.

(v) Phenol mixed with equal quantity, by weight, of sulphuric acid; if to a small quantity of this liquid, drop of diluted nitric acid is added, a beautiful magenta colour is produced, which is changed to green by addition of alkali and again to magenta by excess of sulphuric acid. This is a very delicate test; but, as the reactions are similar, it is of little importance in distinguishing phenol from cresol or creasol.

(x y) If an aqueous solution of phenol be washed with ammonia and solution of sodium hypochlorite a permanent deep blue colouration is produced, which is transformed into a red solution by addition of acids. Cresylic acid produces a blue colouration, which, upon addition of acid, is changed to red, while with creasote a light blue-green colour is produced, which is changed to brown by acid.

(z) This is perhaps one of the most delicate tests for phenol and cresol, but requires great care to distinguish the reactions. With phenol, a crystalline precipitate is produced of tribromophenol, $\text{C}_6\text{H}_3\text{Br}_3\text{O}$. Cresol and creasol react in like manner to phenol; the difference, however, is that tribromocresol is liquid at ordinary temperature whereas tribromophenol is a solid.

(d) With phenol, nitric acid forms $\text{C}_6\text{H}_5\text{OH} \cdot \text{HNO}_3 = \text{C}_6\text{H}_5(\text{NO}_2)\text{OH} + 3\text{H}_2\text{O}$, trinitrophenol or picric acid, which deposits in crystalline plates, while cresol forms trinitrocresol, or trinitrocresylic acid, $\text{C}_7\text{H}_7(\text{NO}_2)_3\text{O}$, yellow, needle-like crystal, resembling picric acid. Creasote forms a somewhat analogous compound.

Synonyms	Phenic acid Phenyl-hydrate Phenol Carbolic acid	Eusylic phenol Eusylic-hydrate Cresol Cresylic acid	Cresol Cresosote
Formula	C_6H_5O	C_6H_5O	$C_6H_5O_2$
Physical Appearance	Colourless needle-like crystals	Colourless limpid liquid	Limpid, viscid, and oleaginous liquid
Odour	Slight smoky	Smoky	Decidedly smoky
Reaction	Neutral	Neutral	Neutral
Polarized Light	Undisturbed	Slight rotation	Rotates to right
Specific Gravity	1.065	1.057	1.037
Solubility in H_2O	1 volume in 18	1 volume in 34	1 volume in 90
Melting-point	$33.3^\circ C.$	—	—
Boiling-point	—	—	Not congelated by cold produced by HCl and Na_2O
Boiling-point	$180^\circ C.$	$201^\circ C.$	205° , dries up at 100°
Coagulation	Produces coagulum	Coagulates	Not coagulated
Albumen	Coagulates	Coagulates	Not coagulated
Glycine, of spec. grav. 1.23	Soluble in all proportions; equal volumes reagent and acid are not precipitated by three volumes water	Soluble in all proportions; equal volumes reagent and acid are entirely precipitated by equal volumes of water	Insoluble
Ferric chloride to aqueous solution	Permanent purple colour	Purple colour	Blue-green, then brownish yellow
Ferric chloride to alcohol solution	Greenish yellow, then brown colour	Brown colour	Green colour
Molybdic acid to concent. H_2O	Permanent purple tint	Purple	Brownish yellow
A shag of wood moistened and dipped into hydric chloride yields, when dry	Blue	Deep green	Greenish blue
Ammonium hydrate	Wholly soluble in equal measures. Not precipitated by less than two measures of H_2O	Practically insoluble 1 to 18. Requires 12 volumes H_2O , and forms crystalline precipitate	Nearly insoluble, 1 to 75
Potassium hydrate	Soluble	Soluble	Soluble
Sodium hydrate	Soluble	Soluble	Soluble
Supple, with traces of nitric	Magenta	Crimson	Pink
Mercurous nitrate	Blood-red colour	Deep-red colour	Amber to blood-red colour
Ammoniacal hypochlorite	Deep navy-blue colour	Blue colour	Light bottle-green colour
Ammoniacal hypochlorite acidulated	Red colour	Red colour	Brown colour
Bromine to water solution	Flocculent crystalline precipitate	Precipitated	Crystalline mass
Nitric acid	Yellow colour	Yellow colour	Yellow colour

GENERAL HINTS TO THE DISPENSER.*

AS quickness and despatch are generally considerations in pharmacy, it is advisable to keep some of the more frequently-prescribed salts in solution; and a few hints as to the most convenient strengths of these solutions may not be out of place here. Bicarbonate of potash, 1 oz. (troy), dissolved in enough distilled water to measure 4 oz., makes a very suitable stock solution, as $\frac{1}{2}$ oz. of it contains 1 drachm, or 60 grs., of the salt. Chlorate of potash, 1 in 24, made in the same way, is the best strength to suit all variations of temperature. The salt is soluble in a smaller quantity of water, but is apt to crystallise with changes of temperature. Epsom salts, 1 in 2; bromide of potassium, 1 in 3; and chloral hydrate, 1 in 1, make very convenient solutions, the latter particularly so, as each minim represents 1 grain of chloral, and it is stable and easily calculated.

Some of the official pill masses become very hard on keeping, and get so brittle as to be unmanageable; they may, with great advantage, be kept in the dry state, the powdered ingredients being mixed together, so that the menstruum ordered by the Pharmacopœia to give consistence may be added at the time of dispensing. In this way pil. colocy. co., pil. aloes barb., and socot., pil. aloes et ferri, and pil. Plummeri may be kept with the required proportions of the requisite menstruum marked on the bottles in which they are contained. This plan is often a great help if the physician happens to order too soft a mass.

Mistura ferri co. can also be kept in a concentrated form, so that every drachm will contain the constituents of an ounce of the mixture, except the sulphate of iron, which is to be weighed out and added the last thing before dispensing. Mist. cretae can be easily kept in powder, ready for the addition of cinnamon water.

The use of concentrated infusions and decoctions, so often employed by pharmacists, is to be condemned. These preparations should be always made fresh as required. It cannot be too strongly impressed upon the student's mind that substitution should never be practised.

Often the dispenser will be at a loss to understand the meaning of the prescriber, when he orders some preparations out of their official names, and he then must have a consultation, or fall back upon the experience of himself or others. A few examples may be given:—When magnes. calc. is ordered, magnes. B.P. should be used; when magnes. carb., the heavy preparation is usually intended; when bismuth. or bismuth. arb. is prescribed, the subnitrate is the preparation generally in the mind of the physician; when aqua menth. is ordered, aq. menth. pip. should not be used, but aq. menth. sativ. is the intention of the prescriber.

Liq. morph. is very often written in a prescription, and the dispenser will do well to always employ liq. morph. mur. When extract. aloes is written, the rule should be to use the socotrine.

Much confusion unfortunately exists in the memory of some prescribers about the mercurial chlorides, and fatal consequences have resulted. The subchloride is often written hyd. chlor., hyd. mur., hyd. submur., and the perchloride is occasionally prescribed as hyd. chlor., or hyd. bichlor.

If the dispenser find it impossible to consult the physician in such cases, he will not regret giving the subchloride, if more than $\frac{1}{4}$ grain is ordered in each dose.

When the physician orders salts, like pot. iod., or roots, like gentian, with directions for their solution or infusion by the patient himself, the dispenser should destroy their identity by the pestle, before sending them out. Quinine, for the same reason, if ordered in a mixture without a solvent, should be carefully triturated till the crystals are broken up.

When the pharmacist gets a prescription where incompatible substances are ordered it is clearly his duty to compound it, unless absolutely incompatible, in which case the different ingredients will not mix, and then, if possible, he should consult the prescriber. Instances of such might be given to fill a large volume, and, unfortunately, no rule can be laid down for the guidance of the young dispenser,

as it is still an open question with pharmaceutical authorities whether a compounder is justified in altering a prescription, suppose he find the emulsifier or excipient ordered by a medical man unsuitable. Much will depend upon his knowledge of, and his relations to, the prescriber; but, where a consultation is impracticable, the dispenser must rely upon his past experience.

Perhaps the greatest difficulty will be met with in the case of pills. A commonly-ordered pill is one containing 2½ grs. of sulphate of iron, and 2½ grs. carbonate of potash. Any liquid added to this would promote decomposition, and experience proves that a little vaseline and cacao butter make an excellent excipient. Iodide of potassium is often ordered in pills, and may be made up by rubbing the salt with a few drops of water into a stiff smooth paste, and working it into a good mass by the addition of a little liquorice powder; in this way 6 grs. may be easily got into a fair-sized pill. The proportions of water and liquorice are not given, as they entirely depend upon the sample of iodide, which vary considerably in their suitability for making pill masses.

Phosphorus is occasionally ordered to be made into a pill *secundum artem*, that is, in whatever way the dispenser thinks best. It should be dissolved in bisulphate of carbon, and whilst solution is being effected, 2 or 3 drops of chloroform may be added, which produce a heavy vapour around the solution, and prevent oxidation of the phosphorus by the atmospheric oxygen. A little liquorice powder may now be added, and the mass quickly made into a workable form with tragacanth paste, divided into pills and coated.

Carbolic acid (Calvert's pure crystalline) may be easily made into pills with wheaten flour, in the proportions of 1½ grs. flour to 2 grs. of acid.

Pernanganate of potash can be made into pills with cacao butter.

Camphor, after being powdered with a few drops of spirit, makes a nice mass with tragacanth paste. Free grs. of powdered acetate of potash may be made in a suitable pill with Canada balsam, and will remain stable.

Powdered pill or extract of colocynth, may be easily worked into a mass with a few drops of decoction of aloes.

Croton chloral should not be treated with tragacanth paste, which dissolves it, and causes the pills so made to flatten. It is best worked up with a little codon of hippocistis and thick mucilage.

Sulphide of calcium, now much ordered for gonorrhœa, should be mixed with an equal quantity of sugar of milk, and, after careful trituration, as much powdered decorticated liquorice root added as will make the weight up to 5 grains, for each trigram more. The mass can now be easily worked up with a little tragacanth paste. Sugar of milk makes the best powder to add to aid the subdivision of an active substance, and the decorticated root of liquorice is the best ingredient for the powder for making up pill masses, as it is so fine and immediately palpable that it does not make a crumbly pill like powdered gentian.

Citrate of iron and quinine makes a good pill with tragacanth paste, but it will not remain hard and deliquescent.

Copaiba can be made into firm pills which keep by adding a very small quantity of carbonate of magnesium to it. Powdered rhubarb makes a good mass with its weight of glycerine. Gallic acid 5 grs. and ½ drop, make a good pill. Four parts of quinine and one of tartaric acid, with q.s. of tragacanth paste make an excellent mass.

Chlorate of potash and hypophosphite of calcium, together, explode, and may cause injury to the dispenser.

Creosote, if ordered with oxide of silver, will explode unless the oxide be first diluted with some inert powder like liquorice or gentian, the creosote.

Borax, powdered and rubbed up with mucilage, forms a soft powder like moist sugar, which cannot be made liquid by the addition of any further quantity of water. Acetate of lead, similarly treated, makes an opaque white jelly.

Spirit of nitre will generally require to be neutralised with bicarbonate of potash, before being compounded with bromide or iodide of potassium, otherwise free nitric acid will be liberated, and the mixture darkened.

* From Dr. Whith's "Elements of Pharmacy, Materia Medica, and Therapeutics."

Sulphate of bismuth is often ordered in a mixture with carbonate of soda, and unless very great care is taken in mixing them, by permitting decomposition at a gentle temperature, carbon dioxide will be produced, and the bottle will burst. This may be prevented by using an equivalent of the carbonate of bismuth.

Emulsions are ordered in a prescription, with the emulsifying agent left to the discretion of the dispenser, he will give some hints in Chapter III., or he may refer to the valuable contribution in the "Year-book of Pharmacy," 1880.

Pessaries and suppositories, containing green extracts, may be readily made by first rubbing the extract with powdered castile soap to about one-fifth part of the bulk of the pessary or suppository, and supplying the major of the basis with coecine, when the mass can be rolled like a pill in a mortar, and shaped by the fingers into moulds previously dusted with powdered starch.

Chlorhydrate can be made into a suppository by pressing it on a water-bath in cacao butter, in which it is soluble.

In conclusion, it may be mentioned that where a prescription is repeatedly compounded, the patient often asks for the same increased, or some other change to be made, and the dispenser is warned not to accede to such a request, notwithstanding how simple it may appear, without a consultation with the prescriber; nor is it advisable for him to inform the patient (even when pressed) of the ingredients in any prescription. He can refer them to the physician, or do as the physician has done long ago, when it was impossible to give him a revelation—read it in full Latin to the patient. It need hardly be mentioned that in the case of repetitions of medicines of all kinds they should invariably be dispensed in fresh bottles or vessels, and have new labels attached in every instance, though the old ones may seem scarcely soiled. Each of these laws is certain to soon get the dispenser into repute.

CLINICAL THERMOMETERS.

R. SCIBB in his *Ephemeris* (No. 2) gives some useful suggestions on the selection and application of clinical thermometers. It appears that a good many cheap but unreliable instruments are sold in the United States. Inaccuracies arise from imperfect tubes, a low degree of skill, and the use of incorrect standards in making the thermometer. There is also an important source of error not so generally known, namely, the contraction of the glass of the bulb is made. Glass undergoes a process of contraction after having been melted, the contraction continuing six years or more, but only appreciable for the first three or four years, so that a thermometer graduated as soon as it is made, though made with proper care and skill, and accurate perfectly from a good standard, will have its mercury column pushed up so that the readings from it will all be too high, and this error will increase through many years. A thermometer graduated within a year or year and a half after it has been made will, in three years or so, read about a degree too high.

Every clinical thermometer bought by a physician should be accompanied by a certificate stating when and where it was made. For many years, and until 1880, the only thermometers having these certificates were compared at the Royal Observatory at Kew Gardens, London, and the certificates of comparison with their standards were supplied by the Kew Observatory at a shilling each. These certificates were a great advantage to the English clinical thermometers which they were sold; but the great demand for these thermometers caused the English makers to send them on unseasoned, though certified, and thus the certificates lost much of its utility, and often accidentally came to be misleading. About 1880, however, the Winchester Observatory of Yale College, at New Haven, Conn., established a thermometric bureau, where thermometers can be repaired for 50c. The amount of error being thus known it can be allowed for.

In selecting a clinical thermometer several important points are entirely within reach of the physician who

First, the index or register being shaken well down, the bulb is taken between the thumb and finger, and the ascending column of mercury carefully observed. If it rises very slowly the glass of the bulb is too thick, or the tube too large. If it rises very rapidly indeed, the glass of the bulb is too thin and the thermometer will be easily broken. The defect from thinness of glass is comparatively rare, while thermometers in which it is too thick are very common. A good thermometer placed under the tongue should show its maximum indication within the tenth of a degree in about six to eight minutes. If they require longer time they are unfit for clinical uses, as they tire patients and waste too much time.

The next point in the selection is to see that a register shakes down easy enough without moving too easily. This will depend a good deal upon the method used by each individual. If the method used by thermometer-makers be used, it will with much ease get any register down, and that without much risk of losing it, but some skill and practice is needed in acquiring this method, and it is not susceptible of being clearly explained. They hold the thermometer rather loosely by the extreme upper end, and then give it a quick flit or sling outward from them somewhat as if cracking a whip, the arm representing the whip-handle, and the thermometer the whip-lash. If the register moves down too easily it will be liable to be lost by causing it to coalesce with the body of mercury below it; and if lost, the thermometer, as a rule, is hopelessly spoiled. Physicians, as a rule, are dissatisfied with instruments which do not shake down easily, and this is the reason for so many lost registers. Registers are often, if not generally, lost at the first or second shaking down, by supposing they are hard to shake down when they are not, or by using some bad method of shaking. Hence a new thermometer should be shaken down with great care until the observer knows how much force is required.

A great improvement has been made of late years by Hicks, of London, for reading these thermometers. Hicks holds a patent for making the stem of such a form that he gets the magnifying effect of a lens upon the column of mercury when the instrument is properly held. Such instruments he calls "Lens-front Thermometers." In selecting one of these, care is necessary to see that the line of graduation is so placed as to be well seen by the magnifying front. In some of Hicks' instruments when the column is brought under the graduations it is only seen edgewise, and without being magnified. For the reading that is necessary to very careful and clear observations a 5-inch or a 6-inch clinical thermometer is much the best length, because it gives a much more open graduation. But 4-inch is the length generally preferred, because better adapted to the pocket. Thus, probably, nine-tenths of all that are sold are 4-inch. A 3-inch instrument is made by some makers, but the graduation is too close to be read with a useful degree of accuracy.

Finally, in selecting, the bulb should be slowly and carefully warmed by holding it near some source of heat until the mercury has slowly risen to within one or two degrees' length of the top of the capillary tube, the highest point reached being carefully noticed. If the tube above the mercury contains much air the register will be pushed down by it as the instrument cools. Such an instrument is not trustworthy. As a rule a clinical thermometer should not be bought without a certificate of either Yale or Kew Observatories, and care should be taken that the number of the certificate has not been altered, and that it agrees with the number of the thermometer with which it is sold. An excellent practice for any physician is to buy a good thermometer with a certificate of as old a date as he can get, and put it away for a period of three years from the date of the certificate. Then send it for a new certificate, keeping it afterwards as a standard by which to ascertain the errors of those which must be bought from time to time as they are broken in use. Such a thermometer is very valuable, and may do excellent duty among neighbouring physicians.

In the application of the clinical thermometer, if the physician has a safe slow instrument and wants to save time, he has only to call for a glass of tepid water, and, having assured himself that it is not above blood heat, to stir the thermometer and lower part of the stem round in the water for half a minute to one minute, and when he

sees that it has nearly reached the normal temperature, transfer it quickly from the water to the patient's mouth. A thermometer which requires eight minutes to reach its maximum indication under the tongue will reach the same point in less than half the time in a glass of water of the same temperature as the mouth, because the surface contact is so much more rapidly changed in the case of the water. This use of water has another advantage of so much importance that it should be uniformly adopted. The cleanliness of it addresses itself at once to the sensibilities of patients, for few patients can help mentally wondering whose mouth that thermometer has last been in. There can be no doubt that the anus is slightly the best place for the thermometer in observations of temperature. Yet, except in cases of young children, and in very exceptional conditions in adults, the inconveniences far overbalance the slight advantages, and the mouth is generally accepted as the best place. The axilla has one or two disadvantages that are perhaps rarely thought of. In dry and harsh conditions of the cuticle, not rare in cases requiring frequent observations by the thermometer, the cuticle becomes so bad a conductor that even by waiting a very long time the thermometer gives an indication much below that of the mouth at the same time. Besides, when a thermometer is placed in the axilla, some pressure of the arm is needed to keep it in place, and this pressure diminishes the cutaneous circulation in the parts in contact with the instrument, and this in time lessens the temperature so that the thermometer indication is liable to be too low.

AMERICAN PHARMACY.

NEW YORK, April 28.

THE pharmacists of our land are anxiously looking for some information as to the new Pharmacopœia, as to who is to publish it, and when it is to appear; yet I think no trust is betrayed if I communicate to you, even in advance of any (as yet) published information here, that the Committee of Revision have awarded the contract to Messrs. William Wood & Co., of this city. The manuscript has been handed over to them, and before this reaches you, it is likely that the proof-sheets of the early pages will be in the hands of the Committee for correction.

It is not unlikely that by the time the British Pharmaceutical Conference meets at Southampton, or the American Pharmaceutical Association gathers at Niagara Falls, the completed volume will be ready for distribution.

From the previous report on the subject which was published a little over two years ago, under the auspices of the last-named organisation, you can judge that the work will be quite different from the Pharmacopœia we now have; that it will be a great advance in arrangement, exact science, nomenclature, and usefulness, there can be no doubt. That it will awaken much dissatisfaction from the older members of both the medical and pharmaceutical professions is equally true—but that is to be expected in any standard text-book which adapts itself to improved methods and advanced science.

It is somewhat remarkable that the work should have progressed so satisfactorily, and all its details have been so thoroughly canvassed by the 25 members of the Committee of Revision, and that during the two years of its existence, these members should have had but two meetings, both during the first six months of its organisation. Since the Committee was formed at Washington in May, 1880, it has been one of the most industrious and hardworking committees that I have ever heard of, as its results will show, and yet it is all done gratuitously.

The chairman, Charles Rice, Ph.D., is indeed a wonder to those who know him. His ability and genius in things that pertain to pharmacy place him in the fore front of the workers of the world in all that relates to our profession, and it is due mainly to his untiring energy and devotion, that this work is so thoroughly renovated, improved, and speedily ready for the press. While other members of the Committee have distinguished themselves in special departments, and all have done their share well, yet all will concede to him the special honour that is certainly his due.

In educational matters our colleges of pharmacare doing credit to themselves. During the past sessions about 1,400 students were in attendance, and nearly 350 have graduated as proficient in pharmacy and the collateral branches.

A well-known English pharmacist said to me one night when at a lecture in our College of Pharmacy, 'It would gladden the hearts of Professors Redwood and Bentley if they had such an audience as you have to-night.' Why is it that Bloomsbury Square does not have larger classes?

The extension of Pharmaceutical organisations is a sign of promise, and a mark of earnest desire to give it calling a better standing in future. Of the six New England States all have State organisations except Massachusetts, but, by the time this letter reaches your first readers, will have organised one of the largest and most enthusiastic of State associations.

Of the Middle States, all but Delaware have State associations. Of the rest of the Union, there are similar associations in Virginia, West Virginia, North and South Carolina, Georgia, Alabama, Mississippi, Louisiana, Kentucky, Ohio, Illinois, Indiana (about forming), Wisconsin, Iowa, Kansas, and California. Then there are a large number of local organisations confined to cities or counties; so that there is a mighty influence for education and progress which is being developed almost all of which is the growth of the past 10 or 12 years.

State Pharmacy laws, Boards of Pharmacy, and the careful system of examination in vogue are exterminating the dispensers of the old style found everywhere a few years ago; and though there are many yet that should retire to some simpler vocation, the improvement in material is certainly remarkable.

A few words relative to the mercantile side of pharmacy may not be amiss. During the past five years more than heretofore, there has been a disposition to compete by necessarily giving away a portion of the usual profits of the leading lines of merchandise, and, as a result, such competition, both the weaker and the stronger competitors are apparently finding new articles by which to waste their energies, and, if possible, allure their customers. The result has been a loss of the legitimate profit that the dealer should have received, and a consequent dissatisfaction on the returns of their business. This applies to the whole sale and retail dealers.

This decrease in business profits has caused the wholesale dealers to look for some method of correcting the evil, and in one direction there appears to be a remedy, which is about to be applied. This is the rebate contract system, whereby the manufacturer binds himself to sell at a certain price, and a definite quantity (one or five gross) to the dealer who in turn binds himself not to sell it, directly or indirectly, at less than a certain named price, and a printed contract to that effect. When the dealer sells with the manufacturer, if he has kept his part of the contract he is entitled to a rebate of 10 per cent, and the manufacturer allows no rebate, and may demand him any more goods. The plan is working, and the present disposition is for both manufacturers and dealers to enter into this amicable arrangement.

During the past two or three years the keen competition has been to give the retail dealer too low a margin; the advantage has been to the disadvantage of the wholesale dealer's; but this is a fair solution of this heretofore uncomfortable state of affairs.

Another item of discomfort in business that is felt by manufacturers is the continued tax on manufactures. There is a strong effort being made for the modification of this tax, in order that our country may have a better field for their products in foreign countries. In view of the wonderful recuperative power of our land, it does seem as if the time had come when portions of the burdens of taxation to pay might be lightened. The spirit-tax is probably the most difficult problems to solve equitably, but no doubt that during the next few months some modification will be made in it.

Enough for the present, and at another time you will hear from

A FORMER CORRESPONDENT.

PHARMACY IN AUSTRALIA.

(FROM OUR OWN CORRESPONDENT)

MELBOURNE, VICTORIA, March 13, 1882.

THE VETERINARY PROFESSION IN AUSTRALIA

I have just received a publication which is called the "Australian Veterinary Journal, a monthly Journal of Veterinary Science, dealing with the Breeding, Feeding, and Management of Stock and the Health and Disease." It has reached its third number, and is undoubtedly of considerable value to the class to which it is addressed; the articles are mostly original, and under the able direction of the editors, Messrs. Graham F.R.C.V.S., and Thomas Chalwin and William T. M.R.C.V.S., it will no doubt continue to prosper.

THE PHARMACEUTICAL SOCIETY OF VICTORIA

At the annual meeting of the Society on March 8, when the report and balance-sheet for the past year were submitted. The attendance was not so large as usual, but this may be accounted for by the fact that there was no contest for the vacancies in the Council. There were five members who retired, four of whom offered themselves for re-election, the fifth seat being filled by the election of Mr. John Ross, Collins Street, who was elected in the place of Mr. Charles H. Shillinglaw, but before it was adopted a lengthy discussion took place on the action of the Council in removing the School of Pharmacy from the control of Mr. J. Cosmo Newbery, at the Technological Museum. Many speakers thought that such an action was unwise, while amongst others it was contended that a school under the immediate supervision of the Society would be far better. The discussion was a very interesting one, and was taken part in by almost every member present. Eventually the adoption of the report was moved by Mr. J. Jones, and carried unanimously.

The President of the Society (Mr. William Bowen) then delivered his annual address. After expressing his thanks for the courtesy and kindness he had experienced from the members of the Society, and from the honorary secretary, Mr. Shillinglaw, whose invaluable services had been of great value to the Society, he said: "It is highly gratifying to observe the liberal assistance presented to our museum, and I trust the time is not far distant when we shall occupy a building suitable to the position in which the students of our School of Pharmacy have ample provision made for them in a laboratory and lecture hall. While upon this subject I may mention that Mr. Blackett, Mr. Shillinglaw, and myself have been in communication with the Crown Lands Office for the purpose of ascertaining what sites were available for our requirements, the result being the selection of five or six, but of this number I am especially suitable; and I am able to say that the Council, with the aid of the members of the Society can bring to bear, will exert themselves, there is something more than possible of securing the object of our ambition."

After allusion to the interest and advantage accruing from such associations as that of the Ballarat Chemists, Mr. Bowen said: "I trust that similar associations will be formed in various portions of this colony, and that before very long sister societies of the Australian colonies and New Zealand will unite together in conference to promote our common object."

The President further alluded to the appointment of a committee for the purpose of revising the Sale of Poisons Act, and hoped that some practical results would emanate therefrom. After some reference to the discoveries of the late Mr. Crookes in relation to the development of the electric light, he concluded by asking that the same kindly spirit which had been experienced might be extended to his successor. He then referred to the recently-held quarterly examinations under the supervision of the Pharmacists, the examiners have placed on record their appreciation of the very satisfactory examination given by one of the students, Mr. William Lowe. In their report of the examination they state that they "fully anticipated with this gentleman at some future date in the

highest rank the Pharmacy Board can confer." Mr. Lowe has been awarded the gold medal given by the Pharmaceutical Society for the student who passed the best examination of the year. Mr. Lowe served his apprenticeship with Mr. George Swift (Messrs. Ford & Co.), Melbourne.

I am sorry to find that the present scarcity of

ASSISTANTS

Has had the effect of inducing a number of persons holding no legal certificates of qualification to come to this colony. For legally-qualified assistants of good character, as I have already pointed out, a good opening presents itself, and they can readily obtain employment. The class, however, which is coming in the greatest numbers are those who have passed no examinations, and it therefore becomes necessary for them (if they have been apprenticed and can produce evidence of that fact) to pass a modified examination before they can be registered. Any person desirous of coming to Australia can readily obtain information how the existing laws in the colonies will affect his business, and I would urge all who contemplate coming out to make themselves acquainted with what is required of them. I frequently hear people say "I was not aware when leaving England that there were any laws relating to pharmacy in the colonies."

There are several

COMMISSIONS APPOINTED BY PARLIAMENT

Besides that on the tariff. There is an Education Commission and a Shops' Commission. This last is dealing exhaustively with hours of attendance of employes, and I understand an attempt is to be made to bring those of chemists' assistants under notice. An attempt was recently made at Sandhurst to obtain some of the privileges of the early-closing system, but it failed, owing to the obstinacy of one person who would not close.

I am glad to state that Mr. Alfred Felton, of the well-known firm of Felton, Grimwade & Co., of this city, has recovered from the effects of his late railway accident.

The Melbourne *Argus* of this date devotes a sub-leader to the prospectus of a new company, the Belgium Export Company, a branch of which has been recently established in Melbourne. This company is one of the outcomes of the late Exhibition. Drugs and chemicals will form one of their staples.

THE BALLOON SOCIETY, ACONITE POISONING, AND THE ROYAL AQUARIUM.

THE fashion of being scientific leads to strange combinations, of which the Balloon Society of Great Britain is one of the oddest. It meets, we believe, weekly at the Royal Aquarium, Westminster; the subscription is 5s. a-year. It does not confine itself to balloons, but has revelled in asphalt, tramways, the Channel Tunnel from a strategic point of view, and the occasion of our visit was a lecture by Dr. Ferdinand Springmühl on aconitine poisoning. The Society has recently distinguished itself by electing Colonel Burnaby an honorary member. The gloomy room it meets in is duly adorned with diagrams of balloons, a river chart, and a case of photographs of about 30 of the members; some of these have taken the trouble to hang a balloon-car from a convenient hook and group themselves therein. At Dr. Springmühl's lecture the cramped platform held eight or nine gentlemen who looked distinguished, and were, as we learned, Dr. de Lacy Evans, Captain de Carteret Bisson, Dr. Aldred, Colonel Wemyss, Dr. Davies, Dr. Bond, Dr. Crastre Webb, Dr. McClagan, Mr. F. Gale, and Mr. W. H. Le Fevre, C.E., president. The audience fluctuated, never numbered more than 60, and contained at first a number of old and young ladies, who stayed till they felt bored. Many of the men looked as if they hardly knew why they were there.

Dr. de Lacy Evans, who was in the chair, read the lecture for the author. It consisted of a reiteration and elaboration of the letters with which Dr. Springmühl favoured the daily papers during the Lamson case. He has known of cases of suicide by aconitine. Morson's is far stronger than the German alkaloid, and ought to be distinguished by another name. He has made experiments on himself with Continental aconitine, and to a less extent with English. The great difference in strength ought to be known, though the results in the Lamson case would have been the same whichever had

been used. This is the substance, but the lecture would have filled four pages of this journal.

The Chairman, of course, spoke two or three times. He thought the lecture was a very good one, and that there was much truth in it. He was awfully glad it had been read before the Society. He was surprised we did not know more about aconite, as it was well known to the ancients, including Pliny.

Mr. Gale had been 40 years engaged in hearing evidence in committees at the House of Commons. He was present, he said, at the trial of Lamson before the magistrates, and Dr. Stevenson's wonderful evidence was the best he had ever heard. Dr. Tidy had since told him that after hearing it he was so thoroughly convinced by it that he refused to go into the witness box. The Chairman remarked that though the Pharmacopœia orders *Aconitum napellus*, he was of opinion that the nearly inert *A. paniculatum* was often used with the addition of *A. ferox*, the deadly vish of India, to make up the deficiency.

Some other distinguished gentleman remarked that some good had arisen from the Lamson case. Before this, the analyst called in had been the doctor attached to the nearest police-station. Now the Home Secretary had passed a resolution calling upon the Presidents of the Royal College of Surgeons and the Royal College of Physicians to appoint an independent analyst. He hoped that care would be taken to select in each case the most efficient man, for it was well known that some men are well up in one poison and some in another.

During the lecture there was one burst of applause, startling the lecturer and the audience. It proceeded from a gentleman in the back seat, who had apparently just come in. The best part of the fun was at the end, when everyone as he left was presented with a ticket for the next lecture, which admits to all parts of the Aquarium during that particular evening.

PHARMACEUTICAL HINTS.

THE following notes are extracted from the commercial report of the Helfenberg Chemical Factory.

Benzoyated Lard.—Lard impregnated with benzoin comes more and more into favour. An iodide of potassium ointment prepared with this will keep white for a week without the addition of sulphate of soda.

Ammoniacum and Galbanum Depuratum.—These gum resins purified by the wet method are now produced so hard that they can be easily powdered, and are very useful in dispensing pills and emulsions.

Cantharidin manufacture has been simplified so that the product can be lowered in price. One part of cantharidin is equal to 200 parts of cantharides powder, so that the collodion, plaster, and ointment of cantharides can be easily prepared. A good collodion cantharidatum may be prepared from—

	Parts
Colloxylin	20
Ether	40
Spirits of wine	70
Castor oil	10
Cantharidin (dissolved in spirit)	2

Extractum Tamarindorum.—This dissolved in two or three parts of raspberry juice yields a pleasant-tasting, gentle purgative similar to Erba's specialty.

Opodeldoc.—Butter-soap has been considered the best for this preparation; but E. Diereich says that none of the soaps are equal for this purpose to the dialysed stearin soap recommended three years ago. The following formula makes an excellent opodeldoc:—

	Parts
Dialysed stearin soap	12
Camphor	8
Spirits of wine	320
Oil of thyme	1
Oil of rosmary	2
Spirits of ammonia	16

Pulvis Secalis Cornuti Eroleati.—Ergot yields to petroleum ether 52 to 53 per cent. of powder free from oil, and 42 to 43 per cent. of fatty oil. If not perfectly freed from oil the powder is more liable to rancidity than if not treated at all.

FAMOUS PHARMACISTS.

CARL WILHELM SCHEELLE.

IN the year 1782, just 100 years ago, two scientific amateurs—M. de Virly (a Frenchman) and M'Elluyart (a Spaniard)—made a journey together into Sweden, mainly for the purpose of visiting two chemists who had made for themselves European reputations. The one was Bergman, the other was Scheele. Bergman was the professor of chemistry at Upsala, the university of Sweden, and at that time held the undisputed pre-eminence in that noted school of learning. He was then 47 years of age—a most omnivorous student. In his youth he had come under the influence of Linnæus, who had fascinated him in botanical studies, from which he branched into entomology, and won distinction in both sciences. But these studies had been but distractions to him. Mathematics had during his student days engaged all his earnest attention; meanwhile he studied law, and studied it hard, to please his father, who had sent him to Upsala for that purpose. No one knew that he had joined chemistry to his other pursuits until, on the death of Wallerius, Bergman put in a claim for the chair which was thus left vacant. He wrote some treatises for the occasion, which proved to be of value, and was bitterly opposed by the chemical section, but was ardently supported by influential friends in the university, and secured the chair, which he held till his death to his own and to his country's glory. Bergman was omnivorous, too, in another and innot quite so creditable a sense. Chemists have detected various curious coincidences between his observations and previous ones of Black, Cavendish, and Priestley, which it is hardly supposed were accidental, while it is generally believed that he cribbed from his devoted friend and admirer, Scheele, the credit of at least one discovery, namely that of oxalic acid, which he, Bergman, claimed as his own. Still Bergman did a wonderful amount of work of a genuine and a valuable character; he won the regard of those who came under his professional influence, and he was worthy of being lionised by our two friends, Virly and d'Elluyart.

After they had duly worshipped at Bergman's shrine they set off to Koping to see Scheele. Koping was a pretty little town situated at the head of the fiord at the mouth of which Stockholm stands, some 80 or 100 miles distant from the capital. They went to the pharmacy, where they found behind the counter, with his apron on, and probably making pills, a young-looking man of unimposing aspect. They asked for Herr Scheele. The unimposing-looking man said that was his name. What could he do for them? They produced their letter of introduction from Bergman, and soon Scheele and his visitors were deep in conversation, discussing the science and especially the chemistry of that epoch was of great interest. All the chemists in Europe were beginning to dimly the facts which were to form the basis of modern chemistry, and which Lavoisier would in a few years make clear by adjusting the focus of the instrument by which they were observed. Scheele was an eminently practical man; his papers, as a rule, record facts and discoveries he had himself contributed largely to making Lavoisier possible. In 1777 he had published on air and fire. Priestley had anticipated his important discovery there announced, namely, the discovery of oxygen, though it is universally conceded that Scheele's researches had been quite independent and probably anterior to those of the English chemists. The two foreigners spent a few days in Koping, and at Scheele's dinner with them each evening, but dinner over he always returned to his laboratory, whether his hosts accompanied him so as to see his work as possible.

At the time of this visit Scheele was 39 years of age, and had already done much of the work which was famous in the annals of chemistry for all time more years only remained to him, but they were distinguished as among the most fruitful of his life. At that very time he was probably prosecuting his experiments

withussian blue, which led to his discovery of what is still known as Scheele's acid. A little later (in 1784) he published his essay on "A Sweet Principle Obtained from Spread Oils and Animal Fats," which he named "sugar of oil," to which Chevreul would later give the name of glycine; and in the same year he announced his discovery of "crystallised citronian acid," since called citric acid. A half-dozen more papers of less historical importance followed his industry until 1786, the year of his death. Scheele's father was a shopkeeper at Stralsund, at that time capital of Swedish Pomerania, but German in character, and afterwards became in fact. Carl Wilhelm was the youngest of a family of eleven children, and was born on December 9, 1742. He went to the public school of the city, and "finished his education," as far as masters and teachers were to help him, at the age of 14. An elder brother had been apprenticed to Mr. Bauch, an apothecary at Gothenburg, and had died during his term. Carl had a desire to be a pharmacist, too, and Mr. Bauch took him. His apprenticeship lasted six years, and when it was completed he had served with his master two more years as assistant. He has scraps of record of this important period of his life, but they have been gathered, but they only show that he worked with industry with zeal and intelligence, studied chemistry, and with ardour, but with that tranquil, untiring patience which characterised all he did through life, and gained a reputation of cheerful seriousness. "Neuman's Chemistry," which was the leading German treatise on the science, and Kunc's "Laboratorium," were the books from which young Scheele after life admitted to have acquired his first serious chemical pursuits.

Leaving Gothenburg, Scheele took a situation at Malmö in the pharmacy of Mr. Kalstroem. There he stayed five years, stilling all his spare time with study and experiment. In 1790 he went to Stockholm, and spent three years in the pharmacy of Mr. Scharenberg, at the sign of the Raven, in the Market-place. It is stated that Mr. Scharenberg felt some little alarm when Scheele might be the humble apparatus which he had collected during many studious years, but Scheele's manipulative skill and conscientious attention to the details of his business soon reassured his master, and the serious assistant, whose opportunities had now come, soon became known in the scientific society of the capital. Public and private laboratories are opened to him, and here Scheele's career as an apothecary began. In 1768 a paper by him had been read to the Swedish Academy of Science, entitled "Chemical Experiments with Sal Acetosellæ," which, it is supposed, suggested his discovery of oxalic acid. This paper was not printed until 1770 he sent to Bergman a description of a process whereby he had prepared tartaric acid. Bergman returned the manuscript to Scheele without comment, and later sent his paper to Retzius, who printed it in the *Annalen* of the Academy, and made public allusion to it as a meritorious work. The process invented by Scheele, which subsequently led him to the discovery of citric, lactic, and arbutic acids was essentially that which has always followed, and consisted in separating the organic acids from chalk and afterwards freeing them by means of stronger acids.

In 1771 Scheele wrote an account of experiments on fluorine, in which for the first time the true nature of this element is described. His experiments were at first commencing with separating the fluoric acid in glass vessels, but afterwards corrected his early misapprehensions, and later defended his conclusions against the attacks of critics—Boulanger and Monnet.

In 1772 he went to Upsala, where he served a Mr. Looche. An incident soon occurred which brought him into contact with Bergman. Looche supplied Bergman's laboratory. One day John Gottlieb Gahn, who was engaged in chemistry under Bergman, and afterwards became a noted chemist, came in the shop and spoke to him of an interesting fact which he had discovered. He was not able to explain. He said that when he poured the vinegar on nitre which had previously been heated in a crucible, the nitre, though apparently unchanged, was decomposed with the evolution of red fumes. He was unable to explain this fact; so was Bergman, and afterwards spoke about it. Gahn came again to

Mr. Looche to tell him Bergman's remarks, when he met with young Scheele. The latter said he did not think it was difficult to understand; he supposed that nitric acid, like vitriolic acid, might exist in two conditions, and he judged that the application of heat reduced the nitric from the per to the sub condition; that in the latter case the acid and the alkali had a weaker affinity for each other and were then decomposed by the vinegar. Gahn was struck with this explanation; told it to Bergman, who at once said that the author must have a clear insight into the facts of chemistry, and desired to make Scheele's acquaintance. Scheele was at first rather disinclined to accept Bergman's friendship in consequence of the slight he had received from him when he had sent him his tartaric acid paper. But Bergman was determined to be friendly, and soon he and Scheele were close acquaintances, and remained on terms of close and cordial intimacy until the death of the latter in 1784. "I intend to write his life," wrote Scheele in Crel's "Annalen," "as I would like to make it known that, notwithstanding the interval which separated us both in years and knowledge, he permitted me to be his friend."

At Upsala Scheele's scientific activity developed wonderfully. He sent papers to the Academy of Sciences at Stockholm on benzoic acid, on the black oxide of manganese, on arsenious acid, on the composition of the air, and other subjects. In 1775 he was chosen an associate of the Academy, and was thus recognised as among the first scientific men of the kingdom.

An interesting record has been kept of an event which occurred during Scheele's residence at Upsala. The Duke of Sudermania with Prince Henry of Prussia visited the University, and Scheele, though not a regular student, was appointed to show them some chemical experiments. Possibly his acquaintance with German (for to the end of his days Scheele was always most familiar with that language) may have been one of the reasons for selecting him, but it is certain that the authorities had perfect confidence also in his manipulative skill.

In the year 1775 Scheele had an opportunity of taking the management of a pharmacy at Koping. The proprietor, a Mr. Pohl, or Popler, had died, and the concession belonged to his widow. But it fell to the Medical College to appoint a *provisor*, and Scheele without much difficulty qualified himself for the position by passing the necessary examination. Bergman would gladly have kept him at Upsala, and offered to get him an appointment as manager of some Government works. But Scheele had no desire to relinquish his occupation, and resolved to go to Koping. Perhaps he had seen the young widow. However this might be, he seems to have soon after decided, in his quiet, patient manner, to try to win her as well as to manage her business. As proprietress of an apothecary in Sweden, where the concession is of considerable value, she was supposed to be rich, but Scheele soon found that the business was encumbered with debts. He made it a matter of honour to restore the business to solvency in the first place. This was a work of years. In 1777 the Royal College of Medicine sent him his diploma as an apothecary, and as a special mark of honour dispensed with either fees or oath. He then purchased the concession from Madame Pohl, though she still shared the house with him. His scientific investigations were always steadily prosecuted; neither love, nor business, nor society, nor delicate health could hinder him in these. He was highly esteemed in the little town where he lived, for, when the concession of the pharmacy was to be sold, and a stranger proposed to buy it, the townsmen declared they would have no other apothecary, and that if Scheele were turned out of this one they would build him another apothecary in the town in order to retain him. He prospered and built for himself a handsome house, and himself gilded the stone lion which was the sign over his shop, and, as might be expected, he did the gilding so well that it is said it has not needed renewal to this day.

He had become himself the proprietor of the pharmacy, and now, with creditable pride, he was able to offer to the lady that very position which he had at first thought of asking her to bestow. But his health was breaking. Some say that his long series of experiments with poisonous bodies had injured his constitution, and that his persistence in working in a cold laboratory brought on attacks of rheumatism.

In 1786 his years of reward, if not of rest, might have seemed to have commenced. He had gained a competent fortune, the love and respect of his neighbours and of his scientific fellow-countrymen, and an honourable reputation all over Europe. The scientific academies of Berlin, Erfurt, and Sardinia, and the Royal Society of Medicine of Paris had enrolled his name among their honorary members. It is said—but there seems to be no sufficient foundation for the story—that the King of Sweden had proposed to ennoble the eminent chemist, but that Scheele declined the honour. But Scheele's nobility needed no royal patent; little as we know of his private life, it is evident that in every position which he filled his first idea was to do his duty; even his beloved scientific researches had to give place always to the duties of his business. And now the time had come for him to assume a new position in life. On May 18, 1786, he married the lady for whom he had worked so long. On that same day he was stricken down with fever. Three days later he executed a will leaving to her all his little possessions; and the next day he died. He had not completed his 44th year.

The work he accomplished as a chemical discoverer is nothing short of marvellous. And it becomes more so when we remember the bare education, the limited means, and the scarcity of leisure which were at his command. He discovered, or at least isolated and described, chlorine, baryta, and oxygen. He just missed the glory of associating his name as the discoverer of the latter-named element because he did not publish his researches as soon as he made them, but his process of obtaining oxygen has been followed to the present day. To him we owe our first knowledge of the composition of the air, of ammonia, and of Prussic acid, though curiously his paper on Prussian blue does not give any indication that he suspected the poisonous nature of the acid which has been called after him. The following long list of acids were first prepared by him, namely, fluoric, molybdic, tungstic, arsenic, lactic, gallic, tartaric, oxalic, citric, and malic. To these discoveries must be added sugar of milk and glycerine, various processes in chemistry, and researches on ethers. For the last ten years of his life he received an annual grant of 100 reichsthalers from Stockholm Academy of Science towards the expenses of scientific researches—a sum equal to about 30*l.* per annum. Most of his experiments were conducted in his shop, and it is stated by Nordenskjöld that his library after his death contained only 12 books on medicine and chemistry, with a few others in Swedish, French, and German, and was valued at 26*s.*

Surely these briefly-narrated facts will suffice to show that of all the famous pharmacists who ever lived none more deserves to be held in honourable remembrance than he who lived at the Golden Lion in Koping.

CHEMICAL SOCIETY.

April 20.

DR. GILBERT (President) in the chair.

The following papers were read:—

"On the Atomic Volume of Iodine," by Dr. Ramsay, the mean value obtained was 36.69.

"On Molecular Volumes," by Dr. Ramsay. The author contrasts the relative probabilities of the antagonistic theories of Kopp and Schröder, and concludes that Schröder's hypothesis is untenable. The author has also determined the molecular volume of the group CH_2 at various pressures, and concludes that its value is less constant the higher the pressure. Thus, at 20 mm. pressure it varies from 17 to 21, at 30 atmospheres from 26.1 to 54.3.

"On the Action of Acetone on Phenanthraquinone, both alone and in the Presence of Ammonia," by Dr. F. R. Japp and F. W. Streatfeild. A white crystalline substance is formed $\text{C}_{17}\text{H}_{13}\text{NO}_3$, which melts with decomposition about 230° , and when dissolved in strong hydrochloric acid, and diluted with much water, forms a crystalline substance $\text{C}_{17}\text{H}_{11}\text{O}_3$, melting at 96° . By heating phenanthraquinone and acetone in sealed tubes to 200° , this substance, $\text{C}_{17}\text{H}_{11}\text{O}_3$, is also formed, and by passing ammonia through its ethereal solution the substance first described, $\text{C}_{17}\text{H}_{13}\text{NO}_3$, can be prepared.

"A Study of Some of the Earth Metals Contained in

Samarskite," by H. E. Roscoe. The author has obtained, by crystallising a mixture of formates of terbium and yttrium, rhombic crystals exactly resembling the so-called formate of philippium. This supposed new metal philippium has therefore no existence.

"On the Spectrum of Terbium," by H. E. Roscoe and A. Schuster.

"On the Action of Thiophosphoryl Chloride upon Silver Nitrate," by T. E. Thorpe and S. Dyson. The authors hoped to obtain a mixed anhydride resembling nitric anhydride, from which some of the oxygen was replaced by sulphur, but no such substance was formed.

"On the Action of Potassium Amalgam, sulphuretted Hydrogen, and Potassic Hydrate Respectively on Tetra Pentathionate of Potassium," by V. Lewis. Potassic amalgam and tetrathionate form hyposulphite, but if exposed to the action of alkali be present some sulphide is produced, pentathionate furnishes similar products.

"On the Action of Zinc, Magnesium, and Iron as Reducing Agents, with Acidulated Solutions of Ferric Salts," by T. E. Thorpe. The conditions for maximum reduction in the case of zinc are concentration of the ferric salt, a small amount of free acid, and a rather high temperature. Magnesium and iron act much less efficiently than zinc. With iron a temperature apparently decreases the reducing action.

May 4.

DR. GILBERT, President, in the chair.

Professor J. Dewar, F.R.S., delivered a lecture on "Recent Development of the Theory of Dissociation." The lecturer, after referring to the earlier work of Black and Berthollet, "Physical Chemistry," pointed out the origin of the term "dissociation," and the experiments made thereon by Deville. Trovot proved that dissociation is a function of temperature, that it is independent of mass, and that the action is reversible. The process resembles in the condensation and volatilisation of a vapour. The experiments, in which vapours are conducted through porous tubes, only prove that dissociation takes place, but do not tell us the extent of the dissociation. Exact determinations of the partial pressures obtained by heating various substances, as ammoniochloride of silver, water, to certain temperatures have been made, a series of experiments have been drawn which, by inspection, show the pressure necessary to prevent the decomposition of substances at any particular temperature. Recent investigations have shown that solid substances have a temperature analogous to the "critical point" of gases above which the substance does not exist. Thus when hydrogen sulphide and water are subjected to great pressure at low temperatures a crystalline hydrate is formed; but above 40°C . this substance cannot exist, however great the pressure may be. A mixture of hydrogen and iodine be heated to about 300°C . and although hydriodic acid is formed; if hydriodic acid be heated to 300°C . free hydrogen and iodine are formed, and the resulting mixture of hydrogen, iodine, and hydriodic acid has in each case the same composition. The lecturer has demonstrated the cycle of Carnot, and showed how a form of heat could be deduced from it by which the latent heat of a chemical compound could be calculated. The importance of the researches of Andrews on the liquefaction of carbon dioxide was insisted upon, and the analogy of the results with the dissociation of chemical compounds pointed out. In conclusion, the author discussed the probability of the dissociation of elements in the sun's atmosphere, reasoning from a legitimate extension of the laws of dissociation, inferred that if hydrogen be considered as an elementary form of matter, the sun's atmosphere is most favourable for dissociation.

KOPF'S EXTRACT OF MEAT AND COMPOUND COMPANY.—At the adjourned annual general meeting of the company, on April 29, the chairman announced that the directors were negotiating arrangements which, it was believed, would benefit the company. An offer was being formed by some influential gentleman, who proposed to take over and carry on part of the business. The meeting was adjourned till June 28, when the ordinary annual business would be brought before the members.

DISCUSSION ON PATENT MEDICINES IN THE HOUSE OF COMMONS.

Friday night last, in the House of Commons, on going into committee of Supply, Mr. Warton (M.P. for Bridport) called attention to the subject of the sale of patent medicines. He said:—The word "patent" arose, as the word was probably aware, from the fact that in ancient times "patents," that is open letters, were granted to persons with the monopoly of vending certain articles. The earliest patent medicine on record was Dr. Stomachic Elixir, though he could not inform us what the ingredients were. (A laugh.) Abuses arose through the granting of these monopolies, and the Government interposed with restrictions. The patents were limited to a certain term of years, and a specification of their character was also required. Those patents were often of a very vague description; and the result of those medicines found that they could do with a patent than with one. An Act of the 52nd George III. was passed on that subject. It was provided that inventors of those medicines should no longer be allowed to sue out patents, but that they should be required to pay duties. The hon. member then read some of the names in a list of several hundreds of patent medicines in order to show how quacks were in the habit of the nostrums the most high-sounding and quasi-scientific names, the better to impose upon the public. He said that a great deal of quackery was promoted by the Government stamp now levied on these medicines, of which was often advertised as 1s. 1½d. with the Government stamp. An apparent sanction, which was strongly disapproved, was thus given by the Government to these medicines, and he suggested that the Chancellor of the Exchequer still thought fit to impose those duties, there ought at least to be some words on the stamps indicating that they were levied for revenue purposes only, and were no guarantee for the goodness of the medicines. The Government, he held, ought not to impose a profit from the evil which resulted to the public through the sale of those medicines. Another point he mentioned was that at present, although restrictions were placed by the Pharmacy Act of 1868 on the sale of patent medicines, properly so called, and although no one, unless he was a medical man, could get certain poisons without very great difficulty, yet it was open to any patent medicine to sell those medicines although they might contain a quantity of poison. The 16th section of the Pharmacy Act reserved the rights of persons making or dealing in patent medicines. He wished to see vested interests respected; but they ought to be jealous of vested interests affecting the public health, and he wondered how the quack medicine interest was so strong in the country as to obtain the insertion in the Act of that year of a special exemption in its favour. The 17th section, he said, that it should be unlawful to sell any poison, in a bottle or packet, unless the bottle or packet containing the poison was distinctly labelled "poison"; but he doubted whether those words overrode the special exemption in the case of patent medicines. The hon. member then mentioned a case in which, in January last, a chemist was charged with selling a bottle of solution of chloral without attaching a label bearing the word "poison" to it. He referred to that case to show what amount of poison might be in a patent medicine. Counsel stated that the solution contained 264 grains in a large bottle and 88 grains in a small bottle; it was undoubtedly

a poison, and 30 grains of it might prove fatal. A case had occurred of a lady obtaining, unknown to her husband, between October 19 and November 8, above 3½ worth of chlorodyne, and she had so injured her brain and nervous system that she was now the inmate of a lunatic asylum. It was well known that the manner of advertising patent medicines produced a world of harm. A man was ill, took something, got better, thought the something had cured him, and wrote a letter which was largely advertised. A Norfolk clergyman in such a letter offered to answer inquiries, and being a man of his word, he had to reply to 800 letters in one week. (Laughter.) This case showed how many fools there were in the world. Every trifling incident was turned into an advertisement, even such an incident as a traveller giving a pill to an Arab chief. The advertisers appealed to the Government stamp, and the public thought that was a guarantee. Why should it not be made obligatory to state that the stamp did not involve any guarantee? And when the patent medicines contained poisons, why should not the vendors be compelled to state the fact, just as much as when they sold poisons by themselves? The sale of coffee adulterated with chicory was a trifling matter compared with the sale of medicines containing poison. He hoped he should be forgiven for having occupied 26 minutes in bringing forward this interesting and important subject. (Hear, hear.)

Dr. FARQUHARSON said the subject was one of great interest in medical circles, connected as it was with looseness in the sale of poisons. Patent medicines were within the section under which it was necessary to label everything containing poison, but the provision was neglected. There were patent medicines that contained virulent poisons, and some more than one, with the occasional result, perhaps, that antagonistic poisons neutralised each other. One of the most dangerous compounds was an essence of linseed, containing a large quantity of morphia, from the use of which painful cases of poisoning had occurred. An established chemist had something to lose by negligence. But these medicines were sold by booksellers and grocers, who had not the same sense of responsibility, and they could be freely had at the stores, at one of which a Yorkshire lady had obtained chloral, which the local chemist had refused to make up, with the result that a few days afterwards she was found dead in bed. The anomalous state of the law was illustrated by the fact that the pharmaceutical solutions of chloral could not be sold, except by registered chemists, while a patent medicine containing a solution of double the strength was freely sold by grocers and others.

Mr. HIBBERT said he was glad that they had at last reached the notice of the hon. member for Bridport, who for some weeks had been exposed to a little ridicule on account of it, and who had shown that there was more in the question than many people imagined. The principal point to which he had drawn attention was one worthy of the attention of the Government. The imposition of the stamp was probably one of the means of raising money resorted to during the French wars; whether it was desirable to continue the system as a means of revenue was a question on which he was not prepared to give a decided opinion. It was a different question whether it was desirable that we should continue to allow medicines, over which the Government had no control, and the ingredients of which they could in no way guarantee, to be sold labelled with the Government stamp, producing the erroneous impression that some guarantee was thereby given. The hon. member had done good service in pressing that point, and if the labels were to be continued he should be glad personally if something could be added to show that there was no guarantee, and that the duty represented by the stamp was imposed purely for fiscal purposes. He was further doubtful whether it was right to allow mixtures of this kind containing poisons to be sold as medicines without being labelled in the same way as poisons were required to be labelled, so as to indicate at least the extent to which they were poisonous. Upon these two points he was quite in sympathy with the speech of his hon. friend opposite. He could not make any promise as to what the Government would do, and could only express a hope that the matter would be fully considered by them, and that some better system would be adopted than that which was now in force. (Hear, hear.)

MISCELLANEOUS FORMULÆ.

JAMES' FEVER POWDER.—F. Scherer, M.D. (Omaha, Neb.), gives in the *Medical Brief* as a formula for the genuine—

	Lts.
Tersulph. antimony, powdered	1
Horn shavings	2

Mix, and throw them into a crucible, red-hot in the fire, and stir constantly until vapour no longer arises. Rub that which remains to powder, and put it into a proper crueble. Then apply fire, and increase it gradually, that it may be red-hot for two hours. Rub the residue to a very fine powder.

HOP CORDIAL (tasting like Hop Bitters).—

	Parts
Hop, daudelon, geutian, camomile, stillingia, orange peel, each	2
Spirit of wine	64
Syrup	16
Water	76

Stearn's New Idea.

CONDITION POWDER.—

	Parts
Elecampane root, fenugreek seed, flax seed, juniper berries, poplar bark, rosin, mustard bran, each	4
Liquorice root, ginger root, sulphate of soda, chloride of sodium, sulphur, sulphate of iron, each	3
Carbonate of soda, gentian root, each	2
Black sulphuret antimony, nitrate of potash, coriander seed, valerian root, each	1
Blood root, lobelia, mandrake root, and exsiccated alum, each	$\frac{1}{2}$

Stearn's New Idea.

LIQUID BLUINGS FOR LAUNDRY USE.—

1. Dissolve indigo sulphate in cold water, and filter.
2. Dissolve good cotton blue (aniline blue 6 B) in cold water.
3. Dissolve Prussian blue with one-eighth part of oxalic acid in water.
4. Dissolve Tieman's soluble blue in water, with 2 per cent. of oxalic acid.

Stearn's New Idea.

HUDSON'S EXTRACT OF SOAP.—In answer to a correspondent, the *Zeitschrift*, on the authority of Skälweit, gives the following receipt for this well-known cleansing material:—

	Parts
Dry soap	15
Dry carbonate of soda	30
Water	55

EXTRACT YLANG-YLANG.—

Best oil of ylang-ylang	10 grammes
Oil of rose	2 drops
Oil of orange-flowers	10 grammes
Tincture of musk	20 to 30 "
Spirit of jasmine	900 "
Orange-flower water	100 to 150 "

Pharm. Zeitung.

BROWN'S TROCHES.—The following is said to be the formula of the above:—

	Ounces
Powdered extract of liquorice	16
" sugar	24
" cubets	4
" gum arabic	4
Extract of conium	1

Mix, and with sufficient water make troches of the proper size.—*Drug. Circular.*

A MINIATURE GARDEN.—*La Nature* gives the following instructions for raising a live bouquet as a pretty ornament for a room:—Get a cheap sponge—the bigger the better—and, having dipped it in warm water, squeeze out half the water. Put into the holes seeds of millet, barley, purslane, red clover, grasses, &c., and in general any seeds germinating easily, and that will give a considerable variety of colours. Place the sponge thus prepared on a vase, or hang it in a window facing the sun. Sprinkle it with water every morning during a week. The sponge will soon be covered with vegetation.

EXCIPIENT.—One part of tragacanth and glycerine form an excellent excipient for quinine and syrups.

GREASE ERADICATOR.—

	Oz.
Castile soap in shavings	4
Carbonate of soda	2
Borax	1
Aqua ammonia	1
Alcohol	3
Sulphuric ether	2

Soft water enough to make one gallon. The water until it is dissolved, and then add the ingredients. Although it is not apparent whether it can do in a gallon of liquid, the mixture is said to be very efficient.—*Druggists' Circular.*

ANISE-SEED SOOTHING CORDIAL.—Winrow's soothing preparation contains too much alcohol and is little to be entitled to the name of syrup. It is properly an elixir or a cordial. Its correct formula, however, has not been published, so far as we know. As a substitute, not as an imitation, we would suggest the following:—

Oil of anise-seed	drachms
" coriander	drogs
Deodorised tincture of opium	fluid oz.
Alcohol	pints
Syrup	"
Water	"
Eudbear	to 3 drachms

Mix together, and after macerating 48 hours filter the paper. Each fluid ounce will contain very nearly a grain of opium, equivalent to about one-fourth of a paregoric. The eudbear is only added, to impart a distinctive colour, and may be omitted.—*Drug. Circular.*

LAXATIVE FRUIT LOZENGES.—

	Parts
Aqueous extract of senna (first deprived of its resin)	40
Pulp of purging cassia	20
Pulp of tamarinds	5
Spanish extract liquorice	4
Resin scammony	4
Sugar and tartaric acid	40

Made into large oval lozenges of 82 grains each, and are dipped in melted chocolate and afterwards covered with a crystalline coat of pure cane sugar.—*Stearn's New Idea.*

SYRUPUS FERRI PROTOCHLORIDI.—Dr. Alfred (American Journal of Pharmacy) gives the following formula:—

Liq. ferri perchloridi, U.S.P.	3v. mxx
Glycerini	3v. by
Syr. simpl., q. s. ad	1.3v. in 10
Ol. rose, ol. neroli, of each	gtt. i.

Mix and expose to the sun until quite colourless, four days in summer, six to eight in winter. reduced to ferrous chloride by the sugar in the rays of the sun. One fluid drachm of the syrup is to 10 minims of tinct. ferri chlor. It is more easily does not blacken the teeth, is more easily assimilated, can be mixed without change of colour with bark, tincture of gentian, syrup of hypophosphites, of bromides, &c.

BATEMAN'S PECTORAL DROPS.—In the (April 27) Dr. Hager says he had formerly published a statement in his handbook that Bateman's benzoated tincture of opium coloured with cinchona analysis shows a larger proportion of opium than the tincture. He now gives the following formula:—

Tinct. opii simpl.	14
Tinct. opii benzoicæ	20
Tinct. castorei Canadensis	5
Coccionellorum contritum	1

Dose for adults 20 to 30 drops morning and evening, to be given to children under 10 years. The tincture of opium represents the strength of 1 grain of opium in 13.3. Their tinct. op. benz. is similar to our paregoric, but contains 1 opium in 200, while ours is 1 in 240.

NE LEATHER POLISH.—Three to four lbs. of fine and lb. of burnt bones are well mixed with 5 lbs. of refined 5 lbs. of saccharine syrup. About 85 grammes of percha are gently warmed in a kettle until the percha is soft, when 320 grammes of olive oil are added. The completely dissolved 32 grammes of stearine are added. The solution is poured warm into the other, and intimately mixed, which 160 grammes of Senegal gum are dissolved in water, and afterwards 15 grammes of rosmarin. When used it is diluted with 3 or 4 parts of water, it is not only a brilliant polish, but, owing to the rosmarin, keeps the leather very elastic and soft.

GREASE BOTTLES.—The following preparation is recommended as an efficient solvent for grease in obstinately dirty bottles.

	Oz.
Cast soap in shavings	4
Carbonate of soda	2
Borax	1
Ammonia	7
Alcohol	3
Sulphuric ether	2

Add soft water sufficient to make one gallon.

The solution should be boiled in the water until it is dissolved, and the oil ingredients then added.

PERFUMES.—The *Pharm. Centralhalle* quotes from the *Pharm. Zeit.* the following formulae for the favourite so-

Crème à la Rose.

	Lbs.
Essence of rose	12
Essence of geranium	5
Essence of bergamot	1

Perfumed with 30 drops of bergamot and 30 drops of geranium oil.

Crème d'Amandes Amères.

	Lbs.
Essence of bitter almond	12
Essence of geranium	5
Essence of bergamot	1

Perfumed with 30 drops bitter almond oil and 30 drops geranium oil.

The mixture should be melted in a water-bath, and the mixed ingredients moderately warmed, poured in a thin stream into a large marble mortar, and worked with the pestle until the pearly appearance is obtained. The perfume and any colour desired dissolved in spirit should be added while the crème is being worked in the mortar.

A NEW FORMULA.—Peltz, in the *Pharm. Zeitschr.* recommends:—

	Parts
Str. lard	100
Str. lard	8.0
Str. lard	3
Str. lard	25
Str. lard	600
Str. lard	30
Str. lard	3
Str. lard	1,800

The mixture should be made in a porcelain or enamelled iron vessel. The lard is first dissolved in the lime-water over a fire, with frequent stirring. To these are added the str. lard, and the solution is changed to a brownish-yellow colour. After half-an-hour the steam-bath the mixture is set aside to be strained or filtered. Lastly, the gum is added, each separately dissolved in a quantity of distilled water, are added, and the mixture is worked with the pestle until the necessary weight is obtained. The red colour, which quickly turns black; and if it dries, needs only the

DR-OIL MADE.

	Parts
Castor oil	630
Castor oil	170
Castor oil	100

to fancy.—*Pharm. Centralh.*

RIESEBERG'S IODINE CAUSTIC.—This preparation has been used in the treatment of lupus. It contains—

	Ounces
Iodine	1
Glycerine	2

It is applied every second day with a camel's-hair brush, but as the preparation is very powerful its action requires to be carefully watched.—*Druggists' Circular.*

FLOUR PASTE.

Flour	4 ounces
Water	1 pint
Nitric acid	40 minims
Oil of cloves	5
Carbolic acid	5

Thoroughly mix the flour and water, strain through a sieve, add the nitric acid, apply heat until thoroughly cooked, and when nearly cold add the oil of cloves and carbolic acid. This makes an excellent paste for all pharmaceutical uses. In dry climates the addition of about 5 per cent. of glycerine prevents it from drying up too soon in the mucilage-pot when used on the prescription counter.—*Druggists' Circular.*

DEODORISATION OF IODOFORM.—Tonquin bean is the best among the substances hitherto recommended for this purpose. Petersen suggests tincture of musk $\frac{1}{2}$ to 1 drop for 30 grammes of iodoform; Ruetz, 10 centigrammes of thymol to 2 grammes iodoform; Hoening, 2 centigrammes of coumarin to 1 gramme of iodoform.

ATROPINE VASELIN.—In the *Prager med. Wochenschrift* Dr. Schenke recommends vaselin as a vehicle for atropine, in preference to the solution. Goldzieber's formula, which he gives, is atropine sulphate 0.02, dissolve in a little water and rub very carefully with 5.0 vaselin (1 in 250). This can be more readily trusted in the hands of patients than the solution. Its mydriatic action is often prompter. It can be easily combined with ointments. The method of application is more agreeable, and the preparation is more permanent than the solution.

TO REMOVE FRECKLES.—Take of—

	Ounces
Oil of almonds	4
Lard	3
Spermaceti	1

Melt, and add of expressed juice of houseleek 3 fl. ozs., and stir until the mixture solidifies by cooling. A few drops of some perfume, as Cologne, may be added. This is grateful and perfectly harmless, in the latter respect differing from many of the recipes recommended, owing to their being more speedily effective.—*Oil and Drug News.*

ELATINA (FOR COUGHS).—

	Parts
Green pine cones	600
Olibanum	8
Balsam of Tolu	5
Rosin	4
Juniper berries	60

The ingredients are covered with a sufficient quantity of water, allowed to stand overnight, and next morning 1,200 parts of liquid are distilled off over a moderate fire. The distillate is filtered and bottled. The dose is stated to be half a wineglassful two or three times a day.—*Pharm. Zeit.*

ARTIFICIAL MEERSCHAUM.—Hager (*Pharm. Centralh.*) quotes the subjoined formula from Wagner:—

	Parts
Calcined magnesia	6
Oxide of zinc	1

Made into paste with an ammoniacal solution of casein precipitated from milk [by acetic acid], and the mass subsequently dried.

GLYCEROLE OF BISMUTH.—M. Barean recommends the following process in the *Union Pharmaceutique*:—Triturate the starch and bismuth subnitrate in a mortar, adding from 5 to 10 grammes of water. Heat the glycerine alone in a capsule. When it is on the point of boiling pour in quickly the mixture of starch and bismuth, withdraw from the heat and stir with a spatula. A fine creamy product is thus obtained.



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SEE SEABURY & JOHNSON'S Advertisement of INDIA-
 RUBBER POROUS AND SPREAD PLASTERS on page 137.

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SPECTACLES. } See HENRY L. FRANK
 Advertisement page 11.

SYRUP OF HYDRIODIC ACID.**HAY'S SOLUBLE ESSENCE OF GINGER.****HAY'S GINGER CHAMPAGNE.****TASTELESS CASTOR OIL.****CHEAPEST CONDY'S FLUID OF A.**

HOMŒOPATHIC MEDICINES (KEEN & ASHWE)
 See page 18.

MAY & BAKER.

See page 18.

EDITORIAL **NOTES.**

REGULATIONS FOR THE SALE
POISONS.

If Sir William Harcourt has depended on his pharmaceutical friends for suggestions he will not be able to make progress with his intended Bill to regulate the sale of poisons. The Pharmaceutical Council at their annual meeting, presenting the semi-official firms of Messrs. Squire and Squire, have drawn up a series of suggestions, which they have submitted to the Home Secretary, but it is difficult to see how he could well base a Bill to introduce Parliament on such a slight foundation as these suggestions. Their proposals are (a) that wholesale dealers should be required to keep a record of sales of poisons for a year, that patent medicines containing poisons should be sold under restrictions similar to those which apply to the poisons sold otherwise than under the patent-medicine regulations.

most likely the Government would carry, would be to benefit the public. The public have a right to expect

Koch claims to have proved by numerous experiments—and his observations have already been confirmed by Dr. Baumgarten—that these peculiar bacilli are invariably present wherever there is tuberculous matter. The crucial question then arises, Are they the causes of the morbid surroundings, or are the latter, to speak unscientifically, the cause of them? This question Koch appears to have resolved by patient and skilful investigation. On this point we may quote from the clear summary of his account given by Professor Tyndall in the *Times* of April 22:—"To meet the objection that it was not the parasite itself, but some virus in which it was imbedded in the diseased organ, that was the real contagium, he cultivated his bacilli artificially for long periods of time and through many successive generations. With a speck of matter, for example, from a tuberculous human lung he infected a substance prepared, after much trial, by himself with the view of affording nutriment to the parasite. Here he permitted it to grow and multiply. From this new generation he took a minute sample, and infected therewith fresh nutritive matter, thus producing another brood. Generation after generation of bacilli were developed in this way, without the intervention of disease. At the end of the process, which sometimes embraced successive cultivations extending over half a year, the purified

bacilli were introduced into the circulation of healthy animals of various kinds. In every case inoculation was followed by the reproduction and spread of the parasite and the generation of the original disease."

Guinea-pigs, cats, rabbits, rats, mice, and other animals were thus experimented upon. At first they were inoculated in the abdomen; afterwards a speck of bacillus-culture, obtained originally from a diseased lung, and purified by perhaps half-a-dozen generations, was placed in the aqueous humour of the eye, always with the result of inducing tubercular disease in the animals so treated.

A very important observation is that these bacilli are invariably found in the sputum of phthisical patients. Even the dried sputum will produce tubercle when inhaled.

REPORTS OF THE PHARMACEUTICAL SOCIETY AND OF THE CHEMISTS AND DRUGGISTS' TRADE ASSOCIATION.

THE annual meetings of the two Societies which between them care for the trade and professional interests of British chemists and druggists are to be held in London next week, and the reports to be laid before those meetings have been issued.

The Chemists and Druggists' Trade Association will hold their meeting on Tuesday the 16th at the Inns of Court Hotel. Their story of the year is not an eventful one, and it cannot be said that their position is in all respects satisfactory. Their wealth, for instance, has declined from 616*l.* 10*s.* 6*d.* to 413*l.* 17*s.* 2*d.* Their income for the year from subscriptions amounts to 691*l.* 5*s.*, representing 2,765 subscribers. Last year they claimed 4,315 subscribers, though they deducted from their assets the sum of 281*l.* 15*s.* for outstanding subscriptions. It is to be feared that only times of trouble can ensure prosperity to this most useful Association, and if the Apothecaries' Society and the public analysts can only have patience for about a couple of years longer they can then cry "Havoc!" and let slip the dogs of war," without the danger of meeting with the organised defensive body which has so valiantly met them in the past.

The report, as far as it shows anything, indicates that the Association have done their work in the past only too well. Under the Sale of Food and Drugs Act two cases only came before the Executive. One they would have defended, but the prosecution withdrew; the other was not a suitable case to support. No annoyance under the Weights and Measures Act has been experienced. The medical bills in Parliament last session were abandoned without a fight, and no chance of assisting in promoting the Pharmacy Act Amendment Bill has occurred. Eight convictions under the 17th section of the Pharmacy Act have been obtained, and an important judgment in the High Court was gained by the Association affecting the sale of poisons by so-called agents. Clearly useful work has been done, but it is not of such a nature as will call forth enthusiastic support. The Association does its work as economically as such work can be done, but the tendency is evidently towards dissolution, and when the organisation no longer exists, a necessity for it may arise, and the trade will find, too late, that it is not easy to call into existence a representative and operative body such as they have had for the past six years.

The report of the Pharmaceutical Council is a far more extensive affair than that of the Trade Association. The latter body spends about 1,000*l.* a year; the financial transactions of the former figure for more than 15 times that amount in receipts, and they show a favourable balance on the year's work of over 1,100*l.* Last year they showed a loss of about 350*l.* in

consequence chiefly of the legal contest which they carried on before the House of Lords. The subscriptions of members, however, have increased from 4,781*l.* in 1897 to 4,662*l.* in 1898. Last year the income from this source was 25*l.* more, but the expenses were over 60*l.* more. The journal account is published more in detail than it has been before, and the report claims a balance in favour of the Society of 4*l.* 3*s.* 7*d.* for some unexplained reason the cost of postage of the journal, amounting to 688*l.* 1*s.* 4*d.*, is shown elsewhere, and therefore has to be deducted from the favourable balance thus showing a balance the other way of 588*l.* 7*s.* 9*d.*, which is nearly 100*l.* less than last year showed. This result must not be taken as an indication of the position of the journal as a commercial property, as only a very small proportion of the 4,781*l.* paid by members, as subscriptions to the Society is in reality paid for the journal. A special expense during the past year has been that connected with the International Pharmaceutical Congress. The Council voted 100*l.* before this event, and then, in addition, additional duties, such as producing the report, they ran up their contribution to 412*l.* The Executive paid 16 annuitants 35*l.* each, and 30*l.* each the 14 others. Besides these the sum of 677*l.* was expended in 63 grants. The management of this noble fund, including postage, printing, and stationery, cost 2*l.* under 40*s.*

The items of the report are not very striking. It is stated that during 1881, 140 infringements of the Pharmacy Act were reported to the Registrar, and in each case inquiries were instituted and the offender communicated with. In some cases, but the report does not say how many, proceedings were taken.

A paragraph respecting the poisons policy of the Council and another on the curriculum proposal may be looked for on Wednesday next, when the members of the Society may criticise, to condemn, or to honour their representatives.

PROPOSED STATE AID FOR A VETERINARY COLLEGE.

A DEPUTATION waited upon the Lord President of the Council on April 26, to ask for Government assistance in the erection of a National Veterinary College. Earl Spencer, in reply, fully recognised the great importance of the matter, and was anxious to promote, &c. He thought they had done well, &c., but there were many competitors for Government aid, and he could not commit the Government, but would lay the matter before his colleagues, and would heartily support, &c., &c.

The Veterinary Surgeons are posing as Olive Branches; they are actually asking for more, not because they have a right to it, but for the preposterous reason that they have recently secured an Act of Parliament which empowers them to drag three or six guineas from the pocket of every veterinary practitioner in the kingdom. They have secured for themselves the enviable privilege of suing their clients in the County Court. The Board of Veterinary Classes, and Colleges, are as freely open to the rest of the world. Yet in spite of these magnificent presents they send "an influential and highly deputation" to extract from the pocket of the State to found a big exclusive veterinary school. It is not them that the Pharmaceutical Society, not to say the significant colleges of physicians and of surgeons, have had to scratch for themselves at their educational establishments. These corporations regulate physic for men. The Veterinarians are proud of

COFFEE AND COCOA MIXTURES.

“I got it from a neighbouring lawyer’s office, while
 60 a chemist in a Northern cathedral city for
 a prescription dispensed, remarked, “I suppose, Mr.
 61 akos, it had been written on a scrap of paper in
 which I must have had it for 6d.” “I doubt that,”
 62 the chemist, in his blindest manner; “but I am

"Do you keep open all night?" asked the reporter of the *Brooklyn Eagle* of a druggist whom he interviewed for the purpose of getting information as to the state of trade. "Not now," was the answer. "I tried it, and only had four customers in three nights. The first wanted an oyster stew, the second wanted a bed, the third wanted to know what

time it was, and the fourth wanted credit. So I gave it up. The scheme cost me \$14 for printing, and I took in a gas bill and some suggestions about rent."

"How much do I owe you for the Vichy?" asked the reporter; "I had one glass."

"We'll call it \$1.25," replied Mr. Theall, in an empty-barrel tone. "I trusted a newspaper man for a bottle of schnapps this week, and I've thrown in my society and conversation. That lets me out about square, and really puts you winner on the deal."

The reporter paid it, and went home more contented with his own lot in life than he had been since the preceding pay day.

LONDON COFFEE.—At the instigation of a Mircing Lane merchant Messrs. Wigner & Harland have purchased from shops in and near London 37 samples of so-called coffee, and have tested them. One sample was sold as taraxacum coffee, and contained no coffee; a sample of dandelion coffee contained 10 per cent., and a sample of date coffee 57 per cent. of coffee. The other 34 samples were served in response to a request for "coffee," and of these two were composed of 100 per cent. of genuine coffee, and 32 were composed of coffee varying from 7 to 68 per cent., mixed with chicory, "finings," dates, dandelion, and other vegetable matters. Of these mixtures 15 out of the 32 were labelled "a mixture of chicory and coffee," but 10 of them contained other matters in addition to chicory. Fourteen were sold without any label, and of the remaining three one was labelled "specially-prepared French coffee" (this contained 34 per cent. of coffee), and the others bore a label announcing that they were "mixtures," but not saying of what. Of the 32 samples of adulterated coffee one contained over 60 per cent. of coffee, four contained between 50 and 60 per cent., four contained between 40 and 50 per cent., 10 contained between 30 and 40 per cent., six contained between 20 and 30 per cent., six contained 10 per cent., and one less than 10 per cent.

MR. WILLIAM WINTER, in the *New York Tribune*, mentions the following anecdote of Longfellow:—One morning a man forced his way past the servant who had opened the hall door, and burst in upon the presence of the astonished author in his library; and thereupon ensued this remarkable conversation:—"Mr. Longfellow, you're a poet, I believe?" "Well, sir, some persons have said so." "All right, Mr. Longfellow. Poet it is! Now, I've called here to see if I couldn't git you to write some poetry for me to have printed and stuck on to my medicine bottles. You see, I go round sellin' this medicine, and if you'll do it it'll help immensely; and I'll just tell you right now, if you give me the poetry I'll give you a bottle of the carminative—and it's one dollar a bottle." For the full enjoyment of this story it was needful to see the poet's face, and hear the delicious bland tone of voice in which he added—"The idea of its being a carminative, of all things."

Parisian Gossip.

— M. Raoul Pictet has almost become a Parisian, as he has now organised a private laboratory, on an elaborate scale, near the Place du Trône, and his works at Croix de Bernay, Quartier de Sceaux, for the distillation of alcohol at a low temperature are nearly ready for operation.

— Several actions have recently been commenced against prominent mineral-water dealers who are, it is alleged, filling the genuine bottles with a falsified liquid.

— Your nursing-bottle makers are likely to get a bit of competition from an enterprising Gaul, who has of recent years been coining money here. A word to the wise may not in this case be sufficient, but I can only add that the inventive Gaul is awake.

— Add another to the numerous natural mineral-water sources which exist in France, and an extra word for the Montroyd Spring, a real Geyser, if the accounts at hand are to be relied upon.

— Siphon waters, in consequence of their exceedingly careless manufacture, are losing ground here. The initiated

have long known that the gas escapes completely emerging from the spout as to leave only a rapid liquid consumption.

— The bottled mineral waters made here several years ago are of such a bad quality that the trade has fallen into the hands of one of the oldest and most reputable export houses, for bottling, whose reputation is "Nouveau" and waters ditto.

— The drinks whose titles end in — de have captivated the Parisians, although a very active push made last season, and there are symptoms of another year. Mem.: Natural mineral waters a too plain and cheap in France to leave much opening for carbonated waters.

— Corylopis is the latest Oriental flower placed in for fashionable perfumes; last year we had xora. These and other *nouveautés* of the great perfumery London scents lead the van in company with Co. jackets, trousers, ties, umbrellas, and sticks.

— Two or three of our new pharmacies in Paris are a glance by English chemists when on the continent. The fittings of two of these are especially cozy and elegant. The Pharmacie de l'Opera, in the Avenue de l'Opera, and the Pharmacie Continentale, near the church of St. Augustin: this last is a perfect bijou. The pharmacies now all go for titles, which show a tendency towards the imposing. We have a Pharmacie Centrale, which is a leading wholesale company in the quarters of Paris; the Pharmacie Normale, in the centre of the town, does a rapid retail trade; the Pharmacie Nouvelle, Place de la Trinité, the first shop to establish a *bar de santé*, now quite in vogue; the Pharmacie du Quartier St. Lazare, under the leadership of H. Rogers, who styles himself, a popular well-known shop; the Pharmacie de l'Etoile, the Pharmacie de la Pharmacie du Nord, du Sud, de l'Est, de l'Ouest, all in vogue in their respective districts, and hundreds of others. No one passing down the Rue de la Paix, across Place Vendôme, and through the Rue Castiglione, failed to notice the plentiful supply of chemists' shops, and especial accommodation of English and American tourists. The prices in these elegant shops are, to say the least, heavy. But it must be admitted that their rents are other expensive.

— As for dentists, the deluge is beyond conception, especially from the prolific U.S.A. The American dentist has all before him here, and old Cresus himself could be at his little accounts for tinkering up our mouths. There are any more persons of the name of T. W. in the Land, familiar with the profession, I should recommend them to hie hither, as it has acquired a good name in business. The great T. W. has made about a million out of the Royal and Imperial mouths of Europe, and his speculations in Paris real estate—a capital man, and deserves his success. There are several others of this kind all doing well, and every year fresh arrivals of dentists reach us from the other side.

— Our new "immortal" M. Pasteur is busily engaged in vaccinating animals in the South of France.

— There is a very considerable vogue at present for *vin de Banyuls*, a mild, comforting, natural wine, not so alcoholic as port, and obtained at a little more than the price of ordinary wine. An excellent tonic is brought from the little town of Banyuls, not far from Perpignan, on the coast, and would make a suitable addition to any of course, it is not a specialité, or it would be this place.

— The decease of M. Salretat, former professor to the Ecole Centrale of Arts, and Porcelain Works at Sèvres, is announced.

— M. Freycinet, actually our premier, has been elected member of the Academy of Sciences, in succession to M. de Bussy, recently deceased.

— Vitriol throwing is more than ever from some very severe sentences have recently been passed on the culprits.

— Alcohol is being distilled in the south of France from sorgho, water-melons, and topinambour, and stilleries are constructing to use maize as the States of America].



*on the Relation to each other of Education and
tion, especially with regard to Pharmacy in
Britain.* Second edition. By Professor Atfield,
S.

ntly arrived at by the Pharmaceutical Council is to have a curriculum established IF they can agree on the details of the scheme, and IF the Privy Council will consent. We showed last month that probabilities in favour of the realisation of either of these are small. Dr. Attfield's pamphlet will at least promote the formation of an intelligent opinion on the subject among others besides the "leaders in pharmacy," and, contained in the pamphlet, do not seem, if we speak with respect, to be of a very weighty character.

arguments in favour of a curriculum are two: commercial. We will deal with the latter at all within the scope of the author to his point at any length; but he does not ignore it. The leaders in pharmacy "who agree vaguely propitiate that it would hardly do to carry 'in the hard times,'" "in the present depressed n," "in the present circumstances," and so on. We r. Attili's reply on this point is conclusive. "That condition of pharmacy should afford a reason why to already overcrowded avocation should be cheap and easy is an argument he cannot follow." to the public and to students, a regulation can be which should check the influx of competition, it must to the interest of those at present in possession to Besides which, so far as the curriculum makes pharmacia and becomes known to the public as a

Dr. Attfield says his proposal is "to fit and adapt to each other pharmaceutical education and a public, and therefore properly supervised, properly-conducted, sound, and thorough, system of pharmaceutical education" (page IV.). And a dozen times in the course of his argument he complains of the present fashion of adapting education to examination. On page 6 he contrasts the two systems, thus:—

Now it may be perfectly possible to contrast "the Society's system of education" and somebody else's "system of instruction"; it may be quite reasonable to oppose anything like "preparation for examination"; it may be quite easy to prove that "a couple of months or so" is an insufficient time to make a scientific pharmacist—but none of these diversions from the argument show that there is an atom of difference in principle between adapting examination to education and adapting education to examination. There is between these contrasted principles just the difference that exists between 3 times 5 and 5 times 3. A bottle may be fitted to a cork or a cork fitted to a bottle: the result will be much the same. So whether examination be adapted to education or education adapted to examination, there will be "preparation for examination," and "cram" will surely be practised.

But Dr. Attfield, of course, clearly knows what he wants. We gather that he would require the student to pass a technical examination in dispensing, prescription-reading, and pharmacy before he entered upon his general or scientific course. Then he would have him go through a curriculum to be defined and, in some sort, supervised by the Council. The examination at the end of that course to be based on what has been studied, and the purpose of it being rather to test the student's work during this past session than to analyse his ability all round at any particular day. Dr. Attfield, in short, would rely more on the course of study and on the certificate of the teachers than on the somewhat uncertain test of a brief examination. He advocates this policy, or something like it, as we have said, with great

force. We are not anxious to oppose his facts or his theories: but we may point out that the adoption of his proposal means a good deal more than appears at first sight. What is suggested is that the scientific course shall extend to five months, or half a session. How long will that period satisfy our leaders, with their longing eyes fixed on the French and German systems, with their courses of three years and upwards?

It may be, of course, admitted that examination is not a perfect instrument for ascertaining the quality of a candidate, but in the hands of competent men it is an instrument which can, with very fair approximation, classify the abilities of those submitted to its test, whether they have been "varnished" or not. Cramping to a certain extent will surely continue so long as examinations last, but as a means of merely defrauding the examiners it is of far less importance than students and some others seem to imagine. Genuine "preparation for examination" is a legitimate and most useful concomitant of all examination systems, which it would be idle and ill-advised to attempt to "put down." "Preparation for examination" means to some extent cramming, and to some extent practical work; but it means above all the concentration of the faculties for a certain period on the particular subject or subjects of the examination. This is not objectionable: on the contrary, it is a most valuable power to cultivate. Chemistry can only be properly learned in the laboratory, botany in the fields, pharmacy and dispensing at the counter. To attempt to cram these subjects would be absurd; and is not attempted. But there are facts connected with them which may as well be crammed as acquired in a more respectable fashion. The student may learn that hydrogen is an element in 10 seconds: he would not know the fact better if he took 10 days to think over it. And whether acquired knowledge be ephemeral or not depends, not on the length of time occupied in attaining it, but on the subsequent occasions for using the knowledge. The barrister professedly "crams" a subject for a trial in which he is engaged: for a brief hour or two he appears as an authority on that subject. A year after he has forgotten all about it. But this is because he had no further use for the information, and it is to his interest to clear it out of his mind as thoroughly as possible. If from the day of the trial he had made the subject the business of his life, his crammed knowledge would have been as useful and as permanent as if he had got it from a six-months' course of lectures.

Dr. Attfield's pamphlet will unavoidably excite discussions such as these, which do not really affect the question of a curriculum. But it is written with the object of really serving the trade, and its tone of healthy vigour is inspiring, and will do us all good whether we fully coincide in the views expressed or not.

Dyeing and Tissue-printing. By W. Crookes, F.R.S.
London: George Bell & Sons.

THIS volume opens a new series of technological handbooks, which are in course of preparation under the editorial supervision of Mr. H. Trueman Wood, the Secretary of the Society of Arts, and which are intended to serve as convenient guides to students and workmen attending one or other of the technological classes, or preparing for the technological examinations of the City and Guilds Institute. Mr. Crookes is a well-known authority on dyeing-processes, and in this handbook, while he explains all processes *ab initio*, he gives a great number of recipes for dyeing cotton, linen, jute, wool, and silk, and for tissue printing, which must make the work useful to most men actually in practice, as well as to students. The technical terms of the dyeing trade are made familiar, and a very good summary is given at the end of the book of the means of detecting colours in fibres.

Examination Questions on the Medical Sciences. Selected and arranged by James Greig Leask, M.B. London: Baillière & Co.

UNDER the above title we have a volume of 113 pages, containing classified and alphabetical series of questions, which, as we understand, have been actually asked at medical examinations on the subjects of anatomy and physiology, botany, hygiene, medical chemistry, medical jurisprudence, medicine and pathology, midwifery, physics,

surgery, and zoology. The book would have been more interesting, and possibly more useful, if correct answers to the questions had been adjoined.

Elements of Pharmacy, Materia Medica, and Therapeutics.
By William Whitla, M.D., &c. (London: H. K. Shaw.)

THE title of Dr. Whitla's work indicates that it is originally intended for the medical student and practitioner; but the summary of its contents which we shall give in this notice will show that it is of a character which cannot fail to be interesting both to the embryo and the developed pharmacist. The author has not by any means aimed merely to add another to the numerous compilations of materia medica and its allied subjects which one professor after another finds it necessary to put into print. His book does not place nor in any way compete with these. His sign appears to have been rather to convey in methodical form abundant and useful information in regard to pharmaceutical materia medica, and therapeutics which those who occupy themselves with medicines must get acquainted with to some extent, but which, as a rule, is only picked up as a result of varied experience.

The first eight chapters of the book are devoted to the processes of dispensing. Many of the hints given are elementary, and some few are of questionable correctness. All dispensers, however, can find something new in the suggestions here given, and the most accomplished will feel interested in comparing notes with the author in regard to their daily occupation. The novice, who as also thought of, will also be grateful for the details of the elements of the dispensing art which he will find here.

We said that some few of the suggestions are of questionable accuracy. The points referred to are matters of practice on which two dispensers are likely to have different methods. As proprietors of medicine-measures we should not care to see an assistant balancing one on the scale made by his forefinger with the thumb behind the main weight as shown in fig. 3; nor do we think it a desirable arrangement for a dispenser to carry the measure and prescription around with him as he collects his ingredients as suggested by fig. 5. Dr. Whitla urges, as a rule of importance that "if there be a substance like strychnine, aconite, arsenic, corrosive sublimate, &c., in a mixture, it should be put in the last thing before the bottle is corked, unless there be some reason to the contrary of this is obvious, for if this be a dispenser's habit or custom, the possibility of his putting it in twice out of the question; and often when the attention is arrested the ablest will forget what he has just accomplished. The rule suggested seems to us calculated to ensure certainty of having the poison in at least one; but we do not see how it is going to protect the patient from having a double portion of the poison in consequence of the theoretical absent-mindedness, especially as exceptions are to be admitted. The chapter headed "General Hints to the Dispenser" is a particularly useful one in this section.

Official Pharmacy is next treated. The various processes are first described and explained, and next the Pharmacopœial Preparations are grouped and commented upon. There is some originality in this section, especially in the paragraph describing the characteristics of colour, &c., of the various pill-masses of the Pharmacopœia.

After a few blank pages for memoranda comes the Materia Medica section. The paragraphs are condensed, the substance or preparation being briefly described as in the Pharmacopœia, with an occasional comment of a desirable, and with indications of the remedial use of the medicine. Accounts of the sources and of the chemistry of the substances are not included in the briefest manner. Seven pages in distinct for a brief notice of about fifty "non-official" medicines.

The section on Therapeutics is perhaps the most important of all. The medicinal action of remedies is treated in a concise and instructive manner. The author draws on his own experience, as well as on modern medical literature, to give formulae which will wonderfully aid the routine and particular attention is given to the treatment of poisoning by any of the substances included in the list. The information, given under the heading of Therapeutics is to some extent lost for want of an index of the diseases.

There is a very good index to the other information in the book.

It is on the Administration of Medicines, and deals with the art of prescribing. In this section a few facsimiles of prescriptions are given, which, must be said, are far above the average in calligraphy. Two or three ordinary specimens have been added. The last section of this contains carefully-arranged work is a view of Pharmaceutical actions and tests. The volume contains over and each page is well filled. We congratulate on having added a really useful book to the pharmacy. Unlike many other works of the same kind a great part of this will be read by anyone concerned in pharmacy, and not merely kept for reference. The reviewer occasionally dissent from Dr. Whittall's ideas, but he is a very accomplished one who will not gather valuable advice from the treatise, and the novice will find it most admirably marked out for him by it.

WYER BLYTH, M.R.C.S., public analyst for Maryborough, is preparing a work on "Poisons: their Effects and Treatment," which will shortly be published by Messrs. C. & J. Whittall & Co.

Not the completion of a work to which, during the course of its publication, we have frequently made reference. Spon's Encyclopædia of the Industrial Arts, Facts, and Commercial Products" has been published in parts by Messrs. E. & F. N. Spon, each part selling for 6s. The work consists of 2,142 royal octavo pages, 30 parts, and is glad to see, are devoted to a very exhaustive index. The first ten parts were edited by Mr. G. C. Warnerford Lock. The remainder by Mr. C. G. Warnerford Lock. Evidence of a considerable number of practical writers have been added to this work, and the result attained is, as a rule, a complete account of the various manufactures. A considerable proportion of these are those in which our constituents are interested. We may mention, among the general subjects (which are, of course, subdivided), Acids, Alkalis, Alcohol, Beverages, Dyes, Yeings, Brushes, Candles, Coal-tar Products, Rubber Manufactures, Matches, Mordants, Narcotics, Photography, Resins and Gums, Soaps, Varnish, &c., will numerous shorter articles on single products, such as Alum, Borax, Camphor, &c. The articles are well written, and to each subject is added a summary of the bibliography on it, if further reference is needed.

Personalities.

T. A. RAIN, chemist, Allen Street, Sheffield, was elected guardian of the Sheffield Union on April 13.

Personal estate of the late James Hunter, chemist, Glasgow, valued at 5,744*l.* 9*s.* 7*d.*

E. MOSBORNE, proprietor of Osborne's golden jubilee, has removed from 26 to 5 Thavies Street, London, W.C.

GEORGE MILL, from Duncan, Flockhart & Co., has just opened a new pharmacy at 1 Brandon Terrace, Glasgow.

WILLIAM BURLEY, for many years manager to the late Mr. John Mackay, has recently opened a new pharmacy at 7 George Street, Edinburgh.

The business of the late James Hunter, Aberdeen, has been purchased by Mr. John M. Munro, of Nicholson Street, Glasgow, whose business has passed into the hands of Mr. W. Plummer & Co., London.

WILLIAM WHYTE has retired from the firm of W. & A. Bros. Co., Trongate, and commenced business at 100 Abchurch Lane, Glasgow.

Scientific Notes:

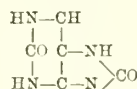
On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.

CONVERSION OF XANTHINE INTO THEOBROMINE AND CAFFEINE.*

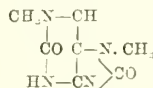
A DIRECT relationship between xanthine, guanine and sarkine, on the one hand, and theobromine and caffeine on the other, has long been suspected. Emil Fischer has now proved this relationship to exist by converting xanthine into theobromine and caffeine.

Xanthine-lead heated to 100° C. for 12 hours in a sealed tube was converted into lead iodide and theobromine. This decomposition proves that A. Strecker's original theory was right, viz., that theobromine and caffeine are di and trimethyl compounds of xanthine.

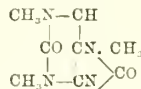
Xanthine.



Theobromine.



Caffeine.



From the above it appears that guano and substances of a like nature will probably form the chief future source of caffeine.

BASIC MAGNESIUM ACETATE.†

W. KUBEL prepares basic magnesium acetate by digesting an aqueous solution of magnesium acetate with magnesium carbonate.

The author states that the salt is possessed of considerable antiseptic, disinfective and deodorising properties. He suggests its use in perspiration of the axillæ and feet, for which it is an excellent and harmless remedy.

A solution of basic magnesium acetate is very difficult to dry completely, and can be brought to almost any degree of concentration by evaporation.

PREPARATION OF LACTIC ACID FROM DEXTROSE, INVERTED SUGAR, &c.

IN a further paper on the preparation of lactic acid from dextrose, &c., sent to the "Berichte der deutschen chemischen Gesellschaft," March 27, 1882, Heinrich Kiliani describes several modifications of his method (see this journal, 1882, page 133), the essential features of which are subjoined.

I. The best raw material is inverted sugar. Commercial glucose (dextrose), prepared from starch, admits of being used, but the percentage result is not so good.

II. Caustic soda is preferable to the potash salt, partly on account of its greater cheapness, and for the reason that the greater part of the water employed in the solution of the substances mixed, enters into combination with the sodium sulphate produced, in the form of water of crystallisation.

III. It is not advisable to neutralise the whole of the alcoholic solution with zinc carbonate, because the zinc salt which is formed together with zinc lactate either does not crystallise at all or only with difficulty, and impairs the crystallisation of the latter, whereas the free acid of that salt does not exert any injurious effect.

Further. Alcohol of 93 per cent. is employed, and the mixture of sulphuric acid and water should be in the pro-

* Berichte der deutschen chemischen Gesellschaft, March 13, 1882.

† Berichte der deutschen chemischen Gesellschaft, March 27, 1882.

portion of 4 parts of water to 3 parts of acid. The caustic soda is dissolved in its equal weight of water.

DETERMINATION OF IODINE IN THE URINE OF PATIENTS UNDERGOING THE IODOFORM TREATMENT.*

THE extensive use of iodoform for surgical purposes at the present day, whereby sometimes as much as 10, 20 gr., and occasionally even larger quantities are ingested at a single operation, render it desirable to have a suitable means of determining the amount of iodine excreted in the urine of patients undergoing the iodoform treatment.

C. Bernbeck has obtained good results in the following way:—

200 c.c. of urine are made slightly alkaline with a solution of caustic potash; the whole is then evaporated to dryness, and the residue heated to redness to destroy all organic substances. The ash thus obtained is extracted with boiling alcohol, the extract filtered off and evaporated over a water-bath. The residue is mixed with a few c.c. of distilled water, a few drops of sulphuric acid, previously saturated with nitrous acid vapours, added, and the whole is then shaken up with a small quantity of carbon bisulphide. The presence of iodine gives rise to the formation of the well-known violet tinge in the carbon bisulphide, and when present in anything more than mere traces its amount may be determined by titration with a solution of palladious chloride of known strength.

THE CULTURE OF RHUBARB IN EUROPE.†

F. BEILSTEIN, of the Technological Institute in St. Petersburg, has examined chemically the roots of different kinds of rhubarb originally brought in seed from the province Kan-su, in China, and grown in St. Petersburg. It appears that the soil and climate of St. Petersburg much resemble that of the locality where the parent plants grew, which is 8,000 feet above the sea level, and for this reason the Director of the Botanical Garden at St. Petersburg, Dr. E. v. Regel, was led to try to acclimatise them there. The attempt is said to have been very successful, for the plants developed extremely well, and produced large roots.

The roots examined were from six years' old plants.

1. *Rheum officinale*
2. „ *palmatum* (grown on a sandy moor)
3. „ „ (grown on clay)

Only chrysophanic acid and encodine were looked for.

No. 2 gave the best results, yielding 1 per cent. of a crude mixture, which consisted of one-quarter encodine, and three-quarters chrysophanic acid. No. 3 yielded $\frac{1}{2}$ per cent. crude extract, consisting chiefly of chrysophanic acid, and but very little encodine. No. 1 likewise yielded but $\frac{1}{2}$ per cent. raw product, consisting almost entirely of chrysophanic acid, and hardly a trace of encodine.

From the results obtained, the author suggests the advantage of cultivating *rheum palmatum* in St. Petersburg, and such cultivation might, perhaps, be equally well carried out in other parts of Europe where the soil and climate are similar to that found so suitable for the plant in St. Petersburg.

PRESERVATION OF VULCANISED CAOUTCHOUC.‡

WHAT worker in the laboratory has not been discomforted by his caoutchouc stoppers and tubes getting hard and breaking? Professor Walther Hempel, of the Dresden Polytechnic, supposing this hardening might possibly be due to evaporation of the solvent used in the vulcanising process, has investigated the matter, and finds that an atmosphere of petroleum protects articles of the kind from getting hard, and that an atmosphere of carbon bisulphide softens such that have got so. The articles must not be placed in the liquid itself, for then they would absorb too much. The best way is to place them in large glass bottles, containing a small dish filled with the agent to be employed. The action of carbon bisulphide must not, however, be continued too long, and the caoutchouc articles that have got softened by it must then, like new ones, be kept in an atmosphere of petroleum.

* *Pharmaceutische Zeitung*, April 12, 1882.

† *Berichte der deutschen chemischen Gesellschaft*, April 24, 1882.

‡ *Berichte der deutschen chemischen Gesellschaft*, April 24, 1882.

CARBOLISED SUET (SEBUM CARBOLISUM)*

WHEN tender sores have to be treated, and other cases where the usual application of carbolic acid is in aqueous solution with charpie, &c., or in the form of an ointment which easily melts is objectionable, Dr. A. Csen, of Eszterburg, suggests the use of some fat of higher melting point being a more suitable menstruum for the phylactic, and he has found that suet answers the purpose very well.

A NEW RE-AGENT FOR NITRITES.

In a paper sent to the *Zeitschrift für Analytische Chemie* Heft 2, 1882, Dr. A. Jorissen alludes to the fact that a number of authors who had been engaged in research on rosaniline had, like him, noticed the colouration produced by nitrites with rosaniline or fuchsine, but that most surprisingly of them had hit on the idea of employing this beautiful action as a test for nitrous acid.

Jorissen prepares a solution of 0.01 gramme of fuchsine in 100 c.c. of glacial acetic acid, and uses this as a delicate test for nitrites. When a very small quantity of nitrite in the dry state or in very concentrated solution mixed with some of the above solution, the quid changes successively from red to violet blue, dark grey, yellow-green, and finally passes over into reddish yellow. Nitric or mineral acids have no permanent effect upon the reagent, although they produce in it a yellow colouration; the original hue is restored by the addition of water, without the case when nitrous acid or a nitrite is present.

When mere traces of nitrites are sought for, the percentage of fuchsine in the re-agent must be reduced; for instance, by diluting 1 c.c. of the above solution with 10 c.c. of glacial acetic acid.

In this degree of concentration the re-agent may be advantageously employed in the determination of nitrites in natural waters according to a method suggested by Fresenius, which consists in distilling such waters with acetic acid and testing the distillate.

A SIMPLE METHOD OF INCINERATION IN AIR FOR DETERMINATIONS.

THE *Pharmaceutische Centralhalle*, April 1882, contains a notice of a very useful and, at the same time, an arrangement for the incineration of substances in air for terminations. It consists of a couple of spirit-lamp Bunsen burners where gas is at hand, a test-tube with a cork and bent-glass tube, an arrangement for the latter, a tripod, and a crucible with perforations. Oxygen is evolved in the test-tube from a mixture of potassium chlorate and manganese peroxide, which is conducted by means of the bent-glass tube to the crucible through the perforation in the lid.

In preparing the ash the crucible is first heated to low redness; oxygen is then evolved by passing the tube for a short time. Directly the oxygen comes in contact with the contents of the crucible a vivid combustion takes place, and the ash soon burns to the proper consistency.

HEALTH OF WORKMEN IN CHROME WORKS.

THE manager of the single establishment in Russia for the manufacture of chrome reports a curious case among the workmen. He says:—"The workmen suffer upon the nose of the dust of bichromate of potash, and a disease manifests itself thus: A little hole is formed in the partition of the nose (dividing the two nostrils), and the creases gradually until the partition entirely disappears, the exception of the lower part of it, so that the observer there is nothing the matter with perhaps a little outward depression. It is not by itself that as soon as the partition is gone the stop there, and neither the lungs, air-tubes, or throat are the least affected. Its influence is very different in different individuals. Some workmen employed for 10 years at the works remain unaffected, while others the hole in the nose begins to form in one month's work. A general inspection of

* *Pharmaceutische Zeitung*, April 26, 1882.

not long ago prove that more than 50 per cent. of diseased noses. When the disease sets in first it is in the nose; a week or so after it is in the throat, and in a few days more there is no uncomfortable symptom of any sort, and thus the hole is formed almost without pain. There are, it is said, six works of the kind published—three in Glasgow, Scotland, one in Russia, one in Austria, and one in England. It would be interesting to know whether the same trouble has ever been noticed on the side of Russia.

THE DISCOVERY OF A PROCESS FOR THE SYNTHESIS OF QUININE.

M. J. FAUMENE has addressed to the President of the Academy of France a sealed packet containing an account of the process invented by himself for the synthesis of quinine, the following note:—

"The discovery of H_2N has enabled me to realise a synthesis desired by all chemists, and for which the Society of Chemistry has offered a prize; namely, the synthesis of quinine. I would communicate immediately to the Academy the results of a very simple operation whereby H_2N yields quinine, if it were not that I wish to reserve this process for medical tests. All the properties of quinine are identical with those of the sulphate of quinine."

Poisoning Cases.

ARSENIC.—On April 14, at Dublin, Mrs. Radford, a widow, quarrelled with her husband, drank some belladonna. The label bore the word "Poison" and she died and cross-bones.

POTASH.—Annie Burger, 24, polisher, of Warwick, on May 9, with an attempt to poison her children by giving them a solution of potassium carbonate. The defence was that she was heretofore suffering from the effects of the same poison to such an extent as to make her irresponsible. She was acquitted.

CARBOLIC ACID.—On April 8 Charles Gibson committed suicide by taking carbolic acid. He had been suffering from melancholia for two years.—By the same person, William Manus, 24, committed suicide at Liverpool on April 10, and Phoebe Humphreys, 28, on April 15.—While in the house of drink Charles Haw, of Mount Vernon, some id at a neighbouring chemist's, and poisoned himself.

ARSENIC.—The wife of a travelling photographer poisoned herself with "chemical poison" at Derby on April 15.

ANTISEPTIC FLUID.—Mrs. Meredith, by mistake, took antiseptic fluid at Pontypridd on April 15. She died after the treatment of Dr. Rees Hopkins.

CARBOLIC ACID.—A slaughterman at Ross (Herefordshire) named Watson, having had a difference with his wife, left his situation. A few days after he met a chum in the street, and asked him if he could get him some stuff to do with. The latter, after some persuasion, sent a veterinary surgeon, named Joseph Smith, to lend him a bottle containing from 2 to 3 drachms of Scheele's solution. He told Watson to have this on his statement that he was going to his home near Ledbury where the dog Watson poisoned himself with the acid. The jury found that he did it under temporary insanity, but they gave both the veterinary surgeon and Watson's friend the poison pass from their possession.

ARSENIC.—James How, an old pensioner, attempted to commit suicide at Shrewsbury by swallowing iodine liniment. He was charged with the offence at the police court on April 4.

ARSENIC.—Mr. Wm. Robbins, a butcher, at Worksop, was poisoned with laudanum, obtained from W. J. Haymarket, Sheffield.

LEAD ACETATE.—Mary Shorter (29) was charged at Edinburgh, on May 3, with attempting to poison her husband by administering to him sugar of lead in some soup.

LINIMENT.—Edward Davies, Chorlton-on-Medlock, on April 16 took some liniment by mistake for medicine, and died in consequence.

MERCURY.—Charles Phelps, umbrella manufacturer, on May 2, while under the influence of drink, mistook a mixture of quick-silver and oxalic acid for beer, and died in great agony a few hours later.—On April 18 Ann Michael died from the effects of corrosive sublimate. She stated that she had taken some poison used for maggots by her master, a farmer, who had kept it locked up.

MORPHIA.—Dr. T. A. Elias died at Southport on April 11 from the effects, it is believed, of morphia poisoning. The post-mortem appearances supported this idea, which was adopted by the coroner's jury on April 13.—Mr. Samuel Naylor died at King's Cross, London, on April 13, from the effects of a narcotic.

OPIMUM.—Mr. H. E. Prockton, artist (34), took by mistake an overdose of opium which he had been accustomed to use for insomnia. He died on April 21.

OXALIC ACID.—Geo. Critchley, 55, died at Liverpool on April 19. A packet labelled oxalic acid was found at his side.—John Leckie and his two children had a narrow escape on April 50. Intending to take an effervescent draught the father mixed some sodium bicarbonate and salts of sorrel, imagining that the latter was tartaric acid. They recovered under treatment.

PHOSPHOR PASTE.—The *Brit. Med. Journal* records a case at the free hospital of a young girl, aged 18, who, four days before admission, had taken some phosphor paste in broth. She did not vomit till nearly 20 hours after taking the poison. She suffered with headache and liver disease, and a rash had come out on her face. At the hospital she was treated with mucilaginous drinks and magnesia, and fed with beef-tea, eggs, and brandy, and fomentations applied to the abdomen. Two days after admission she suddenly collapsed, and died.

STRYCHNINE.—At Pitgaveny, Morayshire, on April 12, pieces of Swede turnip, on which strychnine had been placed, were scattered in a wood apparently for the purpose of destroying game. A number of rabbits were poisoned.—Mr. R. Cockburn, M.R.C.S. (*British Medical Journal*, April 22, 1882) reports a case of poisoning by strychnine which he successfully treated in India. A healthy Mahomedan, aged about 25, had taken from a strychnine bottle, believing it to contain quinine, about as much as he thought was a dose. The poison was taken at about 8 A.M. The doctor saw the patient about 11 A.M. He was complaining of a severe burning in the epigastrium, and spasms of the muscles of the back and legs had set in. Free vomiting was induced by two doses of ipecacuanha powder, $\frac{1}{2}$ drachm each, at 10 minutes interval, with copious draughts of warm water. After this, the tetanic spasms continuing to increase, at 3 P.M. inhalations of chloroform were commenced, which soon relieved the spasms and induced sleep for about an hour; on awaking, the spasms returned, and chloroform was again administered with the same good effects. At 7 P.M. the spasms had much decreased in frequency and force. Chloroform inhalation was continued at intervals till about midnight, by which time the spasms had nearly ceased, and by morning completely so, his only complaint then being of pain and soreness in the muscles of the back. The man was perfectly conscious throughout. He was believed to have taken about 2 grains of the poison.

VERMIN-KILLER.—A miner named Cullen was committed for trial on May 4, for attempting to poison Shepherd Holden, at Oswaldtwistle, by mixing rat poison with his tea.

At Inverness, on Good Friday, one baker sold about a thousand buns which caused symptoms of irritant poisoning in those who ate them. No fatal cases occurred. The poison seems to have been traced to some mixed spice purchased in Aberdeen. Dr. Duncan Mackay, medical officer of health,

just I would blister the skin. Mr. Haslewood, from Messrs. olm's mustard works, said that they could only sell pure ustl among the miners and such people of the North. The Counsel for the prosecution said that after the facts bichad come to light he could not continue the prosecution, id before asked leave to withdraw. The magistrates smid the case, allowing defendant four guineas costs.

A MIDNIGHT CUSTOMER.

r the Central Criminal Court on the 4th inst. a policeman meGuthrie was charged with having burglariously tore the house of Mr. Eli Marshall, a chemist and ugg, at Mortlake Terrace, Sheen. Mr. Marshall's id been robbed, and a few nights after he and three end sat up expecting another visit. The constable keento the trap, and was caught at the till. He was ten 1 to 18 months' imprisonment with hard labour.

A MUSCULAR PHARMACIST.

t. WLIAM HENRY STACEY, chemist and druggist, of han met his brother-in-law, Mr. J. T. Hutchinson, an altyil chemist, at an inn, kept by the father of the mer, hen a quarrel arose, and the chemist somewhat ent assaulted the analyst. A police-inspector appeared the ene, and the report says that Stacey "seized him the s and threw him over his shoulders"—a method of ck rich might have taken Tom Fayers by surprise. The altn scene at the Bury Police Court cost Mr. Stacey 5l. exts, besides having to provide sureties.

THE MEDICAL AND GENERAL STORES (LIMITED).

ETHN to compulsorily wind-up these stores came h in the Chancery Division of the High Court, on May 2, on an interlocutory motion. Plaintiff and defendant both rated water manufacturers at Ipswich. An emend had been made between the parties to exchange a bottle of each other, but it appeared to have not been tly cited out. The question was whether the defendant the rit to use the bottles of the plaintiff on which was lded e plaintiff's registered trade-mark, if he (the ndan put his own label on the bottles. The defendant waed the plaintiff had used some of his (defendant's) t which it was answered that if it were so, ndant had the same legal remedy as plaintiff had. mated defendant's counsel offered an undertaking in tms asked, but plaintiff's counsel pressed for an in- tion. Mr. Justice North said his impression was that tiff's right; and if the evidence at the hearing d be exactly what was before him, he had no doubt tiff wld succeed. As this was an interlocutory ication however, he would prefer to order a mutual taktakin in the terms asked for until the hearing.

THE MARKS ON AERATED WATER BOTTLES.

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THE PHARMACY ACT.

County of the Pharmaceutical Society, on April 18, eacted the Southampton County Court, before Mr. i. Leod, judge, on April 18, William Day, trading as Southampton Drug Company, High Street, Southampton. r. Sheen appeared for the Council, and Mr. Bell for defendt. r. Sheen called the defendant as an adverse witness. nswer his questions, Mr. Day stated that he had been busines in Southampton eight years as a grocer till ember, 1879. From then till December 31, 1880, a nership existed between him and a Mr. Thomas, but he ness) is only a sleeping partner. On December 31,

1880, Mr. Thomas left the business, and for some hours he (witness) was sole proprietor. He sold the business the same day to Edward Thomas Pritchard, who was a registered pharmaceutical chemist, but did not now reside in Southampton. Mr. Pritchard paid 100*l.* down for the business, and the balance was to be paid by acceptances, all of which had not been met. The witness denied the suggestion that Mr. Pritchard had only purchased a share. He (witness) had signed cheques by procuration, and ordered goods in Mr. Pritchard's name. Mr. Pritchard had gone to Edinburgh to qualify as a medical man, but had left a registered chemist and druggist to manage the technical part of the business. Mr. Pritchard had taken part in the business for about ten months, and had been absent about four months. The witness admitted that at the last Revision Court he had claimed a vote in respect of the premises, but Mr. Bell described it as an ordinary political subterfuge.

The sale of some oxalic acid, and the preparation of a prescription containing strychnine were proved.

Mr. Bell submitted there was nothing to show that defendant was the proprietor. Further he submitted there was no proof that it was oxalic acid or strychnine that had been sold, and he contended there ought to have been scientific evidence to prove that point. The only thing was that an old label bearing the name of Thomas & Co. had been put on the packet of oxalic acid. Unless his Honour thought the defendant had committed perjury he could not say it was his business.—His Honour said he should adjourn the case for the attendance of Mr. Pritchard.—Mr. Bell remarked it would cost 10*l.* to get Mr. Pritchard, and the penalty that could be recovered was only 5*l.*—Mr. Shenton, as the defendant was not prepared to bring Mr. Pritchard to the court, asked his Honour to give judgment.—His Honour said he should reserve the point till the next court.

At the next court day his Honour gave judgment in favour of the plaintiffs. It was admitted that Mr. Day had signed all cheques and orders, and he could come to no other conclusion than that he was the proprietor of the shop.

CASTILE SOAP.

ON April 12 and 13, in the Chancery of Lancashire, G. A. Phillips, trading as D. A. Thoms & Co., sought an injunction to restrain R. W. Harrison of Oldham from offering for sale "Castile soap" not manufactured by plaintiff. Phillips alleged that in 1867 D. A. Thoms & Co., in which he was a partner, invented, and have ever since sold, a pale yellow perfumed household soap which they introduced as Castile soap, and put it up in pound bars, stamped with their name and trade mark (a bull and a matador), and wrapped in a coloured label bearing the words fine Castile soap, David Thoms & Co. The Castile soap, which had been known many years before 1867, was a mottled soap, which could not be confounded with the plaintiff's. Last June Phillips learnt that the defendant was selling a similar soap, stamped in his own name and trade mark (St. George and the Dragon), wrapped in a bill bearing his own name, and put up like plaintiff's in 1 lb. bars. He considered that this was an infringement of his right, and applied for redress.

The Vice-Chancellor, without calling upon defendant, decided that there could be no right to the title Castile soap, that there was no proof that the public had been deceived into buying defendant's soap thinking it was plaintiff's, and therefore that there was no wrong to be redressed. Judgment for defendant with costs.

A DRUG COMPANY IN NEW ZEALAND.—The annual meeting of Messrs. Kempthorne, Prosser & Co's. New Zealand Drug Company (Limited) was held at Dunedin on March 8. The report showed a net profit of 10,078*l.* 19*s.* 10*d.*, out of which a dividend of 10 per cent. on the paid-up capital was declared, which absorbed only 3,877*l.* 7*s.* 4*d.*, leaving 6,201*l.* 12*s.* 6*d.* to be carried forward. Much satisfaction with the progress of affairs was expressed by the shareholders. The report mentioned that sulphuric-acid works were in operation, and that the Government bonus of 500*l.* for the first 50 tons manufactured in the colony had been earned and would be promptly paid. The company are also manufacturing muriatic acid, and have the plant ready for making nitric acid. They now intend to go into the manufacture of artificial manures.

BANKRUPTCIES AND LIQUIDATIONS.

JAMES BERRY, Atherstone.

THE debtor, described as a chemist and druggist, of Atherstone, in the county of Warwick, filed his petition for liquidation at the Birmingham County Court on April 13, with liabilities estimated at 2,730*l.*, and assets not yet ascertained. Upon the application of Mr. Frank H. Pogmore, of Atherstone, solicitor for the debtor, the Registrar appointed Mr. Thomas Kiddle, of Hinekley, in the county of Leicestershire, public accountant, receiver of the estate.

JAMES CHAMBERS, Chemical and Varnish Manufacturer Fenchurch Street.

AN adjourned meeting for the examination was held in this case on April 22, before Mr. Registrar Murray. The bankrupt had traded as above, and at numerous other addresses, under the firm of "James Chambers & Co.," and as "Mason, Mortlock & Co." He furnished accounts disclosing liabilities to the amount of 13,663*l.* 12*s.* 1*d.*, and assets 285*l.* 17*s.* 2*d.* Mr. Pritchard appeared for the trustee, and said that he was instructed to consent to the bankrupt passing his examination. The bankrupt passed accordingly.

EDWIN FISHER, Ashton-under-Lyne.

THE first statutory meeting of the creditors of Edwin Fisher, of Ashton-under-Lyne, chemist and druggist, was held on April 19 at Manchester. The statement of affairs showed liabilities to unsecured creditors, 3,552*l.*; creditors fully secured 21*l.*; creditors partly secured, 1,885*l.*; other liabilities, 30*l.*; total unsecured liabilities, 4,252*l.*; and net assets, 1,489*l.* It was deemed advisable to wind up the estate in liquidation, and Mr. Eckersley was appointed trustee with a committee of inspection.

HARRISON & YOUNG, Manufacturing Chemists, West Ham.

THIS failure occurred in January, 1880, and Mr. Parker, on behalf of the trustee, applied to the Court on April 27 for an order closing the bankruptcy. It appeared that a dividend of 3*s.* in the pound had been paid on the joint estate, and the separate estates had also yielded small dividends. There was no objection, and Mr. Registrar Brougham made the order.

JOSEPH MOYLE, Chemist and Druggist, Broadway, Hammersmith.

THE debtor, who filed his petition for liquidation on April 25, estimates his liabilities at 12,030*l.*, the following being returned as creditors, secured and unsecured:—

	£	s.	d.
Bockett & Son, 60 Lincoln's Inn Fields	400	0	0
Bowling, Morden & Bowling, Essex Street, W.C. ..	17	2	6
Brand & Co., Little Stanhope Street	14	8	2
Chamberlain Brothers, Hammersmith	200	0	0
Chapple, Welch & Chapple, Carter Lane, E.C. ..	40	0	0
Chapple, J. (for clients), Carter Lane, E.C. ..	457	3	0
Edwards & Son, Queen Victoria Street	247	12	0
Faber, Mrs., care of 60 Lincoln's Inn Fields ..	5,626	0	0
Glover, —, Brook Green Road, W.	10	0	0
Hawes, — (trustees), care of Chapple & Co., Carter Lane ..	1,783	15	0
Holcombe, J. S., Bedford Row, W.C.	15	0	0
Humphrey, Taylor & Co., Stanfield Street, S.W. ..	12	4	0
Hill, Son & Co., Southwark Street	11	15	3
Hutchins & Crowley, Old Broad Street	10	0	0
Hearon, Squire & Francis, Coleman Street	1,136	0	0
Izard, J. J., Dalston Lane	11	0	6
Larkin, F. R., Lincoln	1,537	10	0
London and Provincial Bank	83	15	0
Maw, Son & Thompson, Aldersgate Street ..	65	16	9
Meacock, —, King Street, Hammersmith	10	0	0
Meggeson & Co., Miles Lane, E.C.	10	5	0
Rixons, —, Old Broad Street	14	19	10
Silverlock, H., Blackfriars Road	96	0	0
Toynbee, Laiken & Toynbee, Lincoln	49	15	0
Tarrant, C. A., Ladbroke Grove Road, W. ..	11	0	0
Ward, J. R., Russell Gardens, Kensington ..	22	0	0

The first meeting takes place on May 16, at the offices of the solicitors, Messrs. Bockett & Son, 60 Lincoln's Inn Fields.

G. & G. PARKER, Manufacturing Chemists, 1 Ward Street, W.

A FIRST meeting was held in this case on the 10th inst. before Mr. Registrar Hazlitt. The bankrupts, who carried on business under the style of "James Rea & Co.," filed a petition for liquidation on February 27, and a composition of 4*s.* in the pound, payable by certain instalments, was accepted, but the resolutions were not registered, and a liquidation was made on April 26, upon the petition of G. C. Boor, wholesale druggist, 1 Artillery Passage, Bishopsgate. A statement of affairs was furnished, showing secured debts 2,320*l.* 12*s.* 10*d.*, debts fully secured 250*l.*, preferential claims, 30*l.*; assets, 736*l.* 0*s.* 6*d.* Proofs of debt amounting to 1,931*l.* 10*s.* 7*d.* were admitted, and G. C. Boor, of 1 Artillery Passage, and Mr. W. A. Dumas, of 59 Vauxhall Road, were appointed trustees, together with a committee of inspection consisting of M. G. F. Clarke, 1 Bury Street, St. Mary Axe, and Mr. J. Giles, 146 Fleet Street. Next meeting, June 9.

W. PUZEY, Luminous Paint Manufacturer, Queen Victoria Street and Aldermanbury Postern, E.C., at Kimberley, South Africa.

THE statement of affairs disclosed liabilities to the amount of 35,055*l.* 15*s.*, and assets 25,496*l.* 17*s.* 7*d.* The creditors agreed to accept a composition of 12*s.* in the pound, payable 2*s.* 6*d.* in three, six, and nine months, and 4*s.* 6*d.* 12 months from the date of registration (the last instalment to be secured). Mr. John Young, accountant, 41 Coleman Street, was appointed trustee. On April 29 the resolutions were ordered to be registered.

Foreign and Colonial

PATENT MEDICINES IN BELGIUM.—The Belgian Academy of Medicine has been latterly much occupied with the discussion of the precautions desirable for the sale of foreign patent medicines in Belgium. The Belgian Government is about to publish a new pharmacopœia, and the occasion is therefore considered suitable one for the introduction of reforms in pharmaceutical legislation. Under the existing law the pharmacist may sell patent medicines which they have themselves invented, or those of which they know the composition, but they are forbidden to sell medicines of whose composition they are ignorant. M. Vleminckx recommends more stringent regulations, and the Minister has intimated to the Academy that he intends to give special attention to the modification of the law, which is desirable should be introduced into the Belgian medicine.

CARDAMOM GROWING IN CEYLON.—If all the success which has attended the cultivation of cardamom in the coffee districts of Ceylon be really the result of a mean, of course, if it should stand the test of experience on a large scale, then indeed proprietors who are half inclined to despair at the short coffee crop of the heart of grace, and definitely adopt the conclusion that this and other new products, Ceylon is by no means out yet. Cultivated Ceylon cardamoms are the London market, and the supply might be increased without bringing down the price to a low extent. Now we have it on the authority of a Ceylon planter, who has 16 acres of cardamom in vigorous growth, that the yield on good soil is about 40 lbs. to the acre, which at present rates would give a gross return of 55*l.* 5*s.*, or say 40*l.* per acre net. Even if we estimate by 2, there would still be a good net return and contingencies. We shall be glad to give hints as to the best varieties, methods of cultivation, selection of soil, elevation, aspect, &c. *Gazette.*

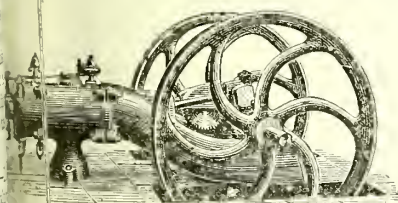
CAMOMILE FLOWERS.—Professor Lander writes to us from Athens:—"These grow abundantly in Athens, and if an English or German druggist or chemist were to visit the city, he would find them growing in the open fields, and in the gardens of the poor people."

(Botanolozer, or Rhizolomer, as Hippocrates was 100 years ago) would go out to Athens at the proper time, Landerer seems to think he could make a good use of it, as he might employ poor women and girls to dry the flowers which could be dried in the sun. Dr. Landerer sends us a sample of the flowers, which we shall be very glad to submit to any philhellene of an enterprising nature. It is said that Greek camomiles are necessarily more aromatic than those of more northern climates, as it is well known that the aromatic principles are developed under sunny skies, and in other regions favour the development of bitter and pungent characters in plants. April is the season for gathering the camomiles. The name camomile is derived from the two words, *chame*, lying down, and *myla*, apple, on account of the shape of the flowers, or from a supposed resemblance in the odour. In Greece they are commonly known as *Phylitika luludia*, or flowers blooming in



THE "OTTO" GAS-ENGINE.

"Otto" and "Crossley" gas-engines, manufactured by Crossley Brothers (Limited), of Manchester, are in very general use, and are employed to great advantage, we know, by many aerated-water makers and other manufacturers. The superiority of a gas-engine over a steam-engine in many industries is very obvious. No smoke, no fires to attend to; no extra insurance to pay; no danger of exploding; no safety-valve to watch; no attention, of cleaning, and of repairs. As to the economy of a gas-engine over a steam-engine, we shall not dwell on it, as it depends much on the extent to which the power is required. A gas-engine can be set going and stopped in a moment; a steam-engine wastes a certain amount of fuel, and is more costly in proportion to power to purchase. The saving in intermittent working must be considered. Gas, too, is a product which is likely to become



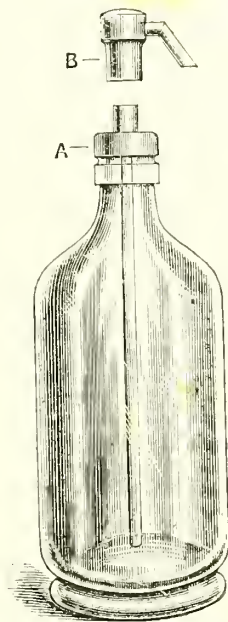
as a motive or heating power. Mr. Woodall, the manager of the Leeds Gasworks, has lately estimated that gas for lighting or other purposes than lighting could be supplied at a cost not exceeding 11d. per 1,000 cubic feet. That is the cost of working even one of the small engines would be about 1d. per horse-power per hour, a possibility which puts steam out of the running. The invention of this "Otto" engine, gas-engines are now very satisfactory machines. The principle of their operation is that a mixture of gas and air being introduced into a cylinder, the piston was thereupon shot out, and the work was therefore conducted by a series of explosions. The principle of the patent now adopted is to produce a cushion of air between the piston and the mixture of gas, and this has the effect of softening the explosion, so that the gas and air are, as the inventors describe it, "gradually exploded," and a pushing force is obtained in place of the unsatis-

factory jerking which were formerly the mode of motion, resulting in a smooth and much more perfect action.

A number of the "Crossley" engines are exhibited at the Crystal Palace Electrical Exhibition, and everyone must be struck with the adaptability of these machines for working the generators where the electric light is introduced into private establishments. It is an interesting probability that the electric light, when it has quite defeated and dethroned its rival—as it must do ultimately—will have to employ it as the slave for developing her own beauty and usefulness.

WEST'S PATENT PARAGON SYPHON.

THIS invention will certainly excite considerable interest in the aerated-water trade. As may be understood from the engraving, the feature of the new syphon is that the opener is quite separate from the syphon as filled. The syphon is filled in the form shown by A very much in the ordinary way, but the patentees supply for this purpose a very simple, safe, and cheap little machine for filling; but when desired all the parts of the syphon can be taken to pieces and perfectly cleaned. The syphons thus filled are quite air-tight. An opener (B) is supplied with them, and this when fixed on the top of the syphon can be made to press down a valve, and thus allow of the flow of the gaseous beverage. An opener costs 4d. or 6d., and one is sufficient for a consumer to possess. The syphons themselves cost but little more than half the price



of the lever syphons generally in use. So that in respect of economy there is a considerable advantage. All the parts employed are cast so that any part will fit any bottle. The one defect which we notice in respect to this invention is that at present these syphons do not seem to be adapted for beverages in which it is required to introduce syrups. Mr. West says he is making arrangements to meet that necessity. Meanwhile, it is unquestionable that he has produced a syphon which, for soda, potash, and other aerated waters, offers advantages of cleanliness and economy which are worth the attention of the trade. The metal parts of the Paragon syphon are either of pure block tin or of a white metal nickel-plated; and all the parts are supplied separately.

Medical Gleanings.

BREVITIES.

For the following concentrated essence of recent medical literature we are indebted to the *Australian Medical Journal*:—

Cotton wool saturated with a mixture of equal parts of chloral and carbolic acid and allowed to dry, makes a good pledget for toothache.

For dissolving gall-stones the hydrated succinate of peroxide of iron, gr. x. ter in die in aqua menth. pip., is reported successful.

Five parts of carbolic acid dissolved in an equal quantity of alcohol, to which six parts of liq. ammon. and ten of water are afterwards added, makes a good inhalation in chronic bronchial catarrh.

For profuse diarrhoea Fothergill recommends am. carb. gr. v., Tinct. opii m. x., Inf. hamatox 3j. every three hours.

Nitrate of silver, hypodermically 5 drops of a 1 to 4 solution, has cured sciatica; great pain follows, and a small abscess forms.

Professor Nussbaum advocates the passing of an act rendering the omission of antiseptic precautions in surgery criminal.

Professor Keith has given up the use of the antiseptic treatment. From using the carbolic acid so much he got renal hæmorrhage himself. Lister himself has lately expressed his doubts as to its efficacy.

The ripe tomato is said to be curative of sore mouth, when eaten in the ordinary way.

Tincture of dogwood (*Piscidia Erythrina*) in 5ss. to 3j. doses is useful in shock with pain and for neuralgia.

Cascara sagrada is a favourite American remedy for costiveness.

The eucalyptus tincture, m. xx. every three hours, is valuable in chronic cystitis with hæmaturia.

Tincture of *Actinomeris Helianthoides* (gravel weed) in doses of 3j. to 3ii. every hour is useful in acute gravel.

From India Dr. Saunders reports the successful use of amyl nitrite in ague. The drug is mixed with equal parts of oil of coriander to make it less volatile, and four drops are inhaled from lint till the patient gets flushed and warm; perspiration follows, and the attack is checked.

Quebracho ext. fluid, m. xx. to lx. every hour or two, is reported by Ringer as useful in dyspnoea.

Nerve-stretching has been suggested as a curative of tetanus.

Cinchonidia (gr. 5) and tinct. ferri. mur. (m. xx.) in water every three hours is a good prescription for glossitis.

Picrotoxino has been found to produce an artificial epilepsy.

Amyl nitrite inhalation is a good antidote in opium-poisoning.

Chloro-phosphide of arsenic (m. 10 of Routh's solution) is useful in bay fever.

For diphtheria the following is recommended:—Pilocarpin, gr. ½; persin, gr. j.; acid hydroch., m. 3; aq. dest., 3ij. ss.; a teaspoonful hourly.

Chloral has been found beneficial in asthma.

Acid boracic, pt. i.; warm water, pts. xx.; hot glycerine, pts. v., is given by Rosenthal in teaspoonful doses, largely diluted, once or twice a day for catarrh of the bladder.

A poultice of two parts of linseed-meal and one of jaborandi-leaves will be found very effective in mastitis.

Citrate of caffeine in 3-grain doses thrice daily is a valuable diuretic.

Benzoate of calcium (gr. x. in water) every three hours is an efficient drug in the albuminuria of pregnancy.

Parsley-leaves applied locally several times a day will suppress the secretion of milk.

Naphthol, 10 to 15 per cent. in ointment, is beneficial and clean in skin diseases.

Iodoform externally and internally is reported as useful in goitre.

Phosphate and hypophosphite of calcium is recommended in pregnancy to prevent the decay of the teeth.

Cocca is credited with being a cure for morphinism.

An ointment of salicylic acid and vaseline for carbolic eczema.

MacLagan obtains the best results in gonorrhoea by administering chlorate potass., gr. ; and ferri perchloridi, m. xx., every three hours.

Grindelia Robusta, an excellent remedy in asthma.

Coto-bark, very good in the night sweats of phthisis. Sulphurous acid, 1 to 15 parts of water always cures gonorrhoea (Mr. W. D. Wilson).

Carbolic acid (m. j. for a child of two years) is efficacious in whooping cough.

We have a new galactagogue in ditanidione, native of Brazil.

A good application for lupus vulgaris—iodoform.

KAVA KAVA IN GONORRHOEA.—Dr. Bodman of Atlantic City, N.J., records in the *Therapeutic Gazette* cases of (apparently) incipient gonorrhoea cured by the following:—

Ext. kava kava fl. ʒ. iij.

Glycerine, q.s. ad ʒ. iij.

M.S. Teaspoonful in a full tumbler of water after each meal.

The patient was directed to take, in addition, a half-teaspoonful of Rochelle salt in a tumbler of water morning upon arising, and as almost the only local treatment, the liquor plumbi subacetat dilutus to be injected into the urethra every four hours. All stimulating drinks or foods, including condiments, were forbidden, and the patient directed to exercise as much as possible. In each case the symptoms entirely disappeared in from three days to a week. In cases which had advanced to the second stage no good results were obtained from the use of the remedy. The fluid extract used was the manufacture of Parke, Davis & Co.

Trade Notes.

MR. N. G. WILCOCKS has commenced the manufacture of "mushroom bulbous" corking machines, to give the shape of the real champagne corks, for aerated waters.

* *

MESSRS. KAY BROTHERS, of Stockport, have introduced an Essence of Linseed "Poison," and leave space on the wrapper for the address label of the retailer.

* *

THE National Chemical Company (packed in casks) lime) have removed from Pitfield Street, London, to Suffolk Grove, Great Suffolk Street, Borough.

* *

It will be noticed that Messrs. W. J. Bush & Co. are advertising the various fruit compounds, which are used in the manufacture of the fruit champagnes which Messrs. Bush & Foster have introduced. Either firm will give particulars respecting licence and machinery for manufacturing champagnes.

* *

THE Shelfanger mineral water is a tonic and is depending for its virtues on the magnesia and carbonates it contains, and produced by the Shelfanger, about four miles from Diss in the county of Norfolk. In the analysis by Dr. Attfield, published by the proprietors, the only mineral constituents mentioned are chloride, magnesium carbonate, and iron carbonate. The point more interesting to chemists is the fact that the proprietor to employ no agents, and that the chemist may therefore be sure that the water is not mortified by his neighbour the grocer offering it at a lower price than himself. The water itself really seems to possess sufficient intrinsic virtues to support judgment. It is doubtless as good as many of the foreign mineral waters the English public so confidently imbibes.

ices of the Liebig's Extract of Meat Company removed to 9 Fenchurch Avenue.

generator, on the "improved vertical" system, been supplied by Messrs. Barnett & Foster to the Aerated and Mineral Waters Association (Lim.), perhaps, the largest of its kind in use. It is over 10 ft. high, and weighs more than 2 tons. It is connected to a waterometer, the tub of which is made of the best sheet iron and the bell of tinned copper.

M. HOFF, of Hamburg, announces by circular that in dispute with Mr. Johann Hoff, of Berlin, is at an end. He understands the announcement, the two brothers (the Hoff brothers) agree to divide the world between them, and not interfere with each other's territory. Great as the brotherly love continues, it appears, fall in the portion of M. Hoff, brotherly love continues!

M. KRUPP, of Essen, Prussia, the great cannon-makers and steelmakers, have found that for compressing gas, according to their new process the best material is iron. They require daily the enormous quantity of 100,000 cubic feet of the gas, or more than 200,000 litres. Apparently they have had some difficulty in producing the gas, and economically, for their Paris agent, we are informed that the Essen people telling them of a very large (for Krupp) Mondolot's principle which had just been adopted at a large aerated-water manufactory in Paris. Krupp, one of the sons, with the chief engineer, consulted Mr. Favarger, the London agent for these engines, and he was so much struck with their simplicity and efficiency that he ordered an ordinary one to make water for the Essen Works, and the biggest generator built for making the carbonic acid they require for Bessemer steel. The generator is a simple and ingenious machine, the constant supply sulphuretted hydrogen gas used in many laboratories. The acid and whitening vessels, communicating by a tube. A little pressure on the whiting, and the pressure of the gas once stops the supply of acid until the gas is allowed to flow, and the pressure is again reduced. Fresh men feeders, and the process goes on continuously and the evolution of gas is regular and thoroughly controlled, stopping or increasing just as required.

OF ENGLAND NOTES.—A case decided last month in the Court of Appeal made prominent some facts which are of importance to bankers. Notes had been obtained by means of a forged cheque; these were changed at the Bank of England for their notes, the numbers of which were then cashed and they were cashed in the usual way of business by a money-changer at Brussels. Of course the operation had been fraudulent, and for the purpose of tracing the notes being traced and the forger detected. All the while the plaintiff knew nothing; he acted bona fide, he paid the money for good bank-notes, and when he presented them to the Bank they refused, on the ground that the numbers had been altered. At the trial before Lord Coleridge without a jury, judgment had been given for the plaintiff, on which the defendants appealed. The question at issue was whether or not there had been an alteration in the material part of the notes. Lord Coleridge had upon a bank-note as being legally the same as an ordinary promissory note, and had held, consistently with a number of decisions, that an alteration in the number of such notes would be a material alteration, as it would not be the right of the parties thereto. This has long been the law as to negotiable instruments, and it remains so still, the Court of Appeal carefully refrained from interfering with this principle. The Master of the Rolls based his decision upon the distinction he drew between an ordinary promissory note and a Bank of England note. As he pointed out, these notes are part of the currency of the country; they are protected by a legal tender statute. The Bank of England can, therefore, issue its notes of which the numbers have been



The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, 4 South Street, Finsbury London, and at Paris and Brussels.]

Applications for Letters Patent:—

Administering Anæsthetics, &c.—No. 1578.—W. R. Lake.—A communication from S. Cooper, of Westfield, New Jersey, physician, and E. Dennis, of Sing Sing, New York, both in the United States. An improved method of, and apparatus for, administering anæsthetics and diffusing perfumes and disinfectants. Dated March 31, 1882.

Bleaching.—No. 1586.—T. G. Young, of Kelly, Renfrewshire, North Britain. Improvements in the bleaching of jute and other substances. Dated April 1, 1882.

Bleaching.—No. 1775.—A. C. Henderson.—A communication from A. Demours, of Huyssinghen, Belgium. Improvements in bleaching hemp and flax, together with their stalks and shives, and rendering the latter fit for paper-making. Dated April 14, 1882.

Bleaching, &c.—No. 1711.—E. Jacobsen, doctor of philosophy, and R. Jacobsen, chemist, of Berlin, Germany. Improvements in the process of bleaching vegetable and animal matters, which invention is applicable for disinfecting and similar purposes. Dated April 11, 1882.

Bleaching and Dyeing.—No. 1807.—S. Fulda, of Bow, London. Improvements in the method and means of preparing fabrics for bleaching and dyeing. Dated April 15, 1882.

Caustic Soda, &c.—No. 1630.—J. B. Spence, of Lombard Street, London, and A. Watt, of Charlton, Kent, chemist. An improved process for obtaining caustic soda and chlorine by the decomposition of saline solutions. Dated April 4, 1882.

Chlorine.—No. 1220.—C. Wigg, of Liverpool, alkali manufacturer. Improvements in and in connection with the manufacture of chlorine. Dated March 14, 1882.

Colouring Matters.—No. 1724.—J. Erskine.—A communication from the Farbwerkevorm, Meister, Lucius, and Bruning, of Hoechst-am-Main, Germany, chemical manufacturers. Improvements in the manufacture of colouring matters suitable for dyeing and printing. Dated April 12, 1882.

Colouring Matters.—No. 1773.—J. Erskine.—A communication from C. Rumpff, of Aprath, near Elberfeld, Germany, chemical manufacturer. Improvements in the manufacture of colouring matters suitable for dyeing and printing. Dated April 14, 1882.

Colouring Matters.—No. 1905.—J. A. Dixon.—A communication from C. Rumpff, of Aprath, near Elberfeld, Germany, chemical manufacturer. Improvements in the manufacture of colouring matters for dyeing and printing. Dated April 21, 1882.

Colouring Substances.—No. 1730.—J. Wetter.—A communication from O. Breit & Co., of Unter-Barmen, Germany. A new or improved process for the manufacture of red and colouring substances. Dated April 12, 1882.

Distilling Fats, &c.—No. 1703.—C. M. Fielsticker, of Sydney Terrace, Kilburn, London. An improved method for the continuous distillation, boiling, saponification, and acidification of fats, oils, glycerine, rosins, and hydrocarbons, and improved apparatus in connection therewith. Dated April 10, 1882.

Drinking-vessels.—No. 1561.—J. Tams, of Longton, Staffordshire. Improvements in the manufacture of drinking-vessels to be used as measures. Dated March 31, 1882.

Filling and Closing Bottles.—No. 1741.—J. J. Varley, of Charterhouse Buildings, London. Improvements in filling and closing bottles, and in the apparatus therefor. Dated April 12, 1882.

Filter.—No. 1863.—A. M. Clark.—A communication from L. L. T. F. d'Autemarche, of Paris. An improved pocket-filter. Dated April 18, 1882.

Glycerine.—No. 1728.—B. J. Young.—A communication from J. P. Battershall, of New York, United States. Improvements in processes of manufacturing glycerine from soap-liquor. Dated April 12, 1882.

Hydrochlorate of Alumina.—No. 1941.—W. R. Lake.—A communication from T. Gladysz, of Marseilles, France. Improvements in the manufacture of crystallised hydrochlorate of alumina. Dated April 24, 1882.

Ice.—No. 1834.—W. W. Nightingale, of Southport, Lancashire. Improvements in means or apparatus for the manufacture of block and other ice. Dated April 18, 1882.

Lead Peroxide.—No. 1721.—F. M. Lyte, of Savile Row, London. Improvements in the manufacture of lead peroxide, also applicable to the production of other metallic peroxides. Dated April 12, 1882.

- Lixiviating Vegetable Materials, &c.**—No. 1833.—C. Heckmann and E. Hausbrand, both of Berlin, Germany. Improved method of and apparatus for lixiviating vegetable and animal materials, and obtaining extracts therefrom. Dated April 18, 1882.
- Malt Extract.**—No. 1909.—T. Dence and J. J. Mason, of Little Stanhope Street, Mayfair, London. Improvements in the manufacture of extract or essence of malt. Dated April 21, 1882.
- Mordant.**—No. 1921.—S. Musgrave, of Leeds. An improved mordant to be used in dyeing blues. Dated April 22, 1882.
- Peroxides, &c.**—No. 1683.—L. Mond, of Northwich, Cheshire, manufacturing chemist. Improvements in the manufacture of the peroxides of the alkalies, alkaline earths, and hydrogen, and the application of the same for bleaching purposes as far as regards peroxide of calcium. Dated April 6, 1882.
- Soap, &c.**—No. 1725.—F. C. Glaser.—A communication from Dr. O. Liebreich, of Berlin. Improvements in the manufacture of soap and of fatty acids from oleaginous fruits, seeds, or grain. Dated April 12, 1882.
- Stopping Bottles.**—No. 1597.—H. J. West, of Southwark Bridge Road, London. Improvements in stoppers and valves of syphon or other bottles for containing aerated or effervescent liquids, or other liquids under pressure. Dated April 1, 1882.
- Stopping Bottles.**—No. 1998.—J. Ballard, of Nottingham. Improvements in internal and external stoppers for bottles containing aerated and fermented liquids. Dated April 21, 1882.
- Stopping Bottles.**—No. 1992.—I. Burdin, of Knottingley, Yorkshire. Improvements in internal stoppers for bottles to contain aerated waters and other liquids bottled under pressure. Dated April 27, 1882.
- Stopping Bottles.**—No. 1569.—W. von Schlieffen, of Schlieffenberg, near Güstrow, Germany. Improvements in stoppers or closing devices for bottles or other receptacles. Dated March 31, 1882.
- Sulphide of Sodium, &c.**—No. 1753.—W. Weldon.—A communication from W. Helbig, of Aussig, Germany. Improvements in the manufacture of sulphide of sodium and sulphide of potassium. Dated April 13, 1882.
- Sulphuric Acid.**—No. 1752.—W. Weldon.—A communication from the Société de la Manufacture de Javel, of Paris. Improvements in the manufacture of sulphuric acid. Dated April 13, 1882.
- Surgical Splints.**—No. 1963.—H. Hidea.—A communication from E. Porteus, of Antwerp. Improvements in surgical splints or supports, to serve also as a litter or ambulance for wounded and sick patients. Dated April 25, 1882.
- Tannin.**—No. 1665.—E. A. Brydges.—A communication from A. Mitscherlich, of Münden, Germany. Improvements in the process of producing tannin, whereby the minor products, such as cellulose, gum, acetic acid, and bisulphite of lime, are obtained. Dated April 6, 1882.
- Treating the Magmas in Wool-washing.**—No. 1789.—W. H. Beck.—A communication from C. Violette and A. Buisine, both of Lille, and A. Vinchon, of Rowbaix, both in France. Treatment of the magmas arising from the wash-liquors in wool-washing for the purpose of recovering therefrom, directly and in a purity, the useful principles contained therein. Dated April 14, 1882.
- Vaginal Syringes.**—No. 2,048.—E. de Pass.—A communication from P. Lawrence, of New York, United States. Improvements in vaginal syringes. Dated May 1, 1882.
- Vaporising Fluids.**—No. 1,604.—C. Scott, of Belfast. Improvements in apparatus for vaporising fluids to be used as disinfecting, deodorising, or other sanitary and medical agencies. Dated April 3, 1882.
- Voltaic Batteries.**—No. 1,901.—A. R. Bennett, of Glasgow. Improvements in voltaic batteries. Dated April 21, 1882.
- Water-gas.**—No. 1,918.—J. C. Mewburn.—A communication from G. S. Dwight, of New York, United States. Improvements in the manufacture of water-gas, and in apparatus employed in such manufacture. Dated April 22, 1882.

Specifications published during the month :—
Postage 1d. each extra.
1881.

3179. G. Lowe. Preparation for healing wounds and sores. 2d.
3537. J. S. Campbell. Moulding or vulcanising flasks for dental purposes. &c. 6d.
3720. W. R. Lake. Devices for stoppering bottles, &c. 8d.
3728. E. Hagen. Production and application of ozonised oxygen for bleaching, &c. 6d.
3741. O. Möcke. Refrigerating apparatus for producing local anaesthesia, 6d.
3748. C. F. Claus. Manufacture of hydrate of strontia. 4d.
3785. J. Alexander and A. K. McCosh. Obtaining products from blast furnace and other combustible gases, &c. 6d.
3797. D. C. Foster. Bottle-washing machines. 6d.
3802. G. F. Rendall. Stands for bottles, &c. (Not proceeded with.) 2d.
3844. A. M. Clark. Manufacture of salts of magnesia and salts of zinc. 4d.

3845. A. M. Clark. Apparatus for moulding bottles. 8d.
3846. A. M. Clark. Manufacture of salts of soda and magnesia. 2d.
3847. W. N. Wilkinson and J. W. Lister. Bottles for receiving aerated and other liquids, &c. (Not proceeded with.) 2d.
3850. J. H. Johnson. Preparing colouring matters suitable for dyeing and printing. (Not proceeded with.) 2d.
3872. R. When, jun. Extracting oleomargarine and cer fat from raw butchers' fat. (Not proceeded with.) 1d.
3882. R. Haldane and J. Telfer. Obtaining products from the distillation of small wood, &c. 6d.
3883. E. Luck. Apparatus for aceticifying alcoholic waters and spirits. 6d.
3901. J. H. Johnson. Manufacture of gas, &c. (Not proceeded with.) 2d.
3902. J. C. Steele. Packing chloride of lime, &c. 6d.
3923. W. R. Lake. Explosive compound. 4d.
3930. W. P. Thompson. Manufacture or purification of albumen. 2d.
3940. A. W. Reddie. Removing calcareous and other impurities from water. 4d.
3958. P. Jensen. Refining and crystallising starch sugar. 4d.
3959. P. Jensen. Refining starch sugar. 4d.
3981. H. Willington. Abdominal-belts, &c. 6d.
3988. F. Wirth. Manufacture of colouring matter. 2d.
3999. L. A. Groth. Preparation of meat-extract. 4d.
4035. G. W. Bremner. Treatment of substances for the manufacture of adhesive or glue. 6d.
4037. W. Clark. Secondary batteries. 6d.
4041. H. Codd. Glass bottles, &c. 6d.
4059. H. H. Lake. Electrical bath apparatus. 4d.
4088. H. E. Newton. Treatment of sewage and refuse matters, &c. 4d.
4096. J. Nall. Boxes for carrying bottles. (Not proceeded with.) 2d.
4100. H. A. Bonneville. Process for manufacturing all kinds of glass bottles. (Not proceeded with.) 2d.
4116. J. W. Nottingham. Apparatus for drawing cork from bottles. (Not proceeded with.) 2d.
4123. L. A. Groth. Appliances for closing or stoppering bottles. (Not proceeded with.) 2d.
4130. W. C. Horne. Manufacture of pulp for cardboards, &c. (Not proceeded with.) 2d.
4133. L. T. Wright. Purification of illuminating gas, &c. (Not proceeded with.) 2d.
4163. A. G. Salamon. Treatment of "brewers' waste," &c. 4d.
4200. A. Bottin. Brushes for domestic and medical purposes. (Not proceeded with.) 4d.
4201. E. A. Parnell. Manufacture of oxide of iron, &c. (Not proceeded with.) 2d.
4212. P. Spence. Purifying sewage. 4d.
4214. H. E. Newton. Treating seaweed to obtain useful products. 4d.
4231. H. J. Haddan. Feeding-bottles. 4d.
4234. H. J. Haddan. Treatment of indiarubber, &c. 4d.
4381. F. Wirth. Indigo-printing. 2d.

226. J. M. Thorpe and J. A. Belloli. Protecting bottles from breakage, either in packing or handling. 4d.



BANKRUPT.

PARKER, GEORGE, & PARKER, GEORGE, JUN., 181 Water Street, Manchester. Manufacturing chemists, trading as James Rea & Co. April 2.

LIQUIDATIONS.

BERRY, JAMES, Atherstone, chemist and druggist. April 14.

MORRIS, WILLIAM, 12 Lowesmoor, Worcester, pensioner. April 26.

MOYLE, JOSEPH, 27 The Broadway, Hammersmith, clothier and draper. April 25.

PARTNERSHIPS DISSOLVED.

BLYTHE, WM. & CO., Holland Bank Chemical Works, Chester Road, Manchester, 97 St. James's Street, 190 Hope Street, Glasgow, manufacturing chemists. (Mary Blythe, widow, John Thom, James Barlow, William Frederick Charles Blythe, as executors of William Blythe, deceased.) Debits by remaining partners. January 26.

TREHARNE, SONS, & BENTLEY, London Street, wholesalers and medicine-chest fitters, and ships' stores. (John Davies Treharne and Edmund Thomas Bentley.) Debits by remaining partners. April 1.

WHEELER, WHITAKER & HATTON, High Street, Belfast. Chemists. (Walter James Wheeler, Frederick W. Hatton.) Debits by H. Whitaker.

Change Column.

IN THE EXCHANGE COLUMN which to their advantage to draw up advertisements so that they fall into one of the divisions into which contents are grouped.

Also suggest that those who avail themselves of the Disposal section will be wise to make some approach to detail, what probable purchasers are too numerous to enter into preliminary correspondence, which is likely enough to have a result.

Advertisements are inserted in this column at the rate of one halfpenny per word, name and address are added. No charge to be paid for. Price in proportion to the number of words.

Advertisements are not included, one must be paid. A number will be added to the advertisement by the CHEMIST AND DRUGGIST, and some relating to it must be paid. "Publisher of THE CHEMIST AND DRUGGIST, Cannon Row, E.C." the envelope to be sent with the number. The Publisher's correspondence to the advertiser at his share in the transaction.

Money.—In order to ensure the following system:—The advertiser in the Exchange column remit the amount to us. We shall only pay it away on the order of the advertiser. Whether returned to the advertiser, we charge a commission of 5% on any transaction of 30 or less, and 10% on more.

Optical.

Gosby's, or Druff & Druff's spectacles, or the above vendors, or exchange for anything, price and full reasons for disposal. E. A. Turner, Chemist, 280 Strand, W. London.

Dental and Surgical.

Dr. Williams (various) of a dentist, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Drugs and Chemicals.

Shallender, 50s.; deposit. 182/17. 9 lbs. ol. carn. ext.; what 24/1. 10 lbs. pulv. nux. arca, 4 lbs. umbal. 1/2 lbs. rad. aconite, 12 lbs. india 1 1/2 lbs. gum animi, 4 1/2 lbs. pulv. 1/2 lbs. cort. cascarille, 10 lbs. t. almi, 10 1/2 lbs. aloes socot. 2 1/2 lbs. d. sellae, 4 lbs. santonica, 10 lbs. crude. 10 lbs. pulv. cinchona, 10 lbs. ang., 12 1/2 lbs. macis opt., 10 lbs. ph. aur., 3 lbs. rad. jalape, 10 lbs. rad. aca, 4 lbs. pulv. ipecac., rad. 1/2 lbs. bacauri, 12 lbs. pulv. euphor. 10 lbs. sem. crotonis, 5 lbs. 10 lbs. rad. hellebore alb., 10 lbs. 5 lbs. gum kino, 5 lbs. sem. 10 lbs. rad. pareira brava, 4 lbs. 10 lbs. pulv. cascarille, 10 lbs. shavings, 5 lbs. rad. enula, 10 lbs. 14 lbs. sem. foniculi, 10 lbs. 1 cwt. bacce juniper, 28 lbs. 10 lbs. wt. pulv. coriander, 1/2 cwt. 10 lbs. wanted, A. Richardson, 10, Manchester.

1 lb. finest bergamotte, 9s.; 6 oz. essential oil almonds (fine prussic acid), 12s.; 6 oz. English oil santal, 1s. 6d. oz. Newcombe, Chemist, Westminster.

Super essence lemon, Jamaica beeswax, rose geranium, pulv. and rad. zingib., acid. carbonic., and B. P. Chinese vermilion, Bennett manna cakes, 9s. gross; write for prices. Sowerby, Middlesbrough.

Surplus stock for sale.—One bottle ol. ppt. (Mitcham), one bottle ditto American, some morphia mur., ditto acet., a small quantity of musk, a few plate-glass shop-fittings, &c. 185/30.

Proprietary Articles.

7 ls., 11 2s. 6d., 2 10s. Mincease; 4 2s. 9d. Hall's chlorate of potash; good condition; what offers? 182/24.

One gross Bradbury's sheep-dip, 3 dozen Bradbury's fly-powder, quite clean, cost 6l. 4s. 6d. net, price 4l. cash. Anthony & Biss, Bedford.

Four hottles Clark's "Neurasthenipponskelesterizo," 7s. 6d. size, surplus stock; first reasonable offer. Slaughter & Son, Steyning.

Six dozen small size Long's maggot lotion, and 3 1/2 dozen large size; half retail price, and will pay carriage any reasonable distance; clean and reliable. Martlow, Chemist, English Street, Carlisle.

Wanted, offers for three gross and 44 packages Bradbury's sheep-dip, and 119 packages Stokoe's sheep-dip, slightly faded wrappers, but in good condition; carriage paid to any railway station in the United Kingdom. Apply, "Meg," Evans, Sons & Co., Liverpool.

Apparatus.

Sheep-dipping apparatus, improved lever, Harvey & Quibel's, price 25l. W. H. Scott, Medical Hall, Sandy, Beds.

A Weightman's printing-press, with two founts of type, nearly new, cost 42s.; print 7 in. by 10 in., price 21s. Maclean, Chemist, Glencorse, Edinburgh.

Ten-guinea Smee's battery, by Halse, in mahogany case, light cells, price 3l.; also 24 59 pill-machine, good condition, price 7s. 6d. Harley, Chemist, Mare Street, Hackney.

Half-plate bellows-hcdy mahogany camera, dark slide, developing-box, tripod stand, 1/2-plate Darlot lens, with neat black box, for 2l. 10s. Thomas Walton, Chemist, Sunderland.

Educational.

Botany.—The official plants, mounted, only 6s. FRESH plants also regularly supplied. Higginson, Newferry, Cheshire.

Postal system for Minor, neatly copied in six books, cash 10s. 6d., or exchange for Heufrey's "Botany." Smith, 112 Camden Road, N.W.

Materia medica cabinet, cost 7l. 7s., Evans & Lescher's, in good condition; will take 5l. Apply to Heath, 30 Highbury Park, London, N.

Set of illegible autograph prescriptions (original), 2s. 6d.; 30 prescriptions (catch and difficult) given to dispense at Minor during past 12 months, 2s.; 50 questions asked of successful students at last Minor, 1s. 1d.; lot of cheap, almost new, books, stamp for list, Saunders, 130 Camden Road, N.W.; note change of residence.

Literature.

Chemist and Druggist of 1879, in good condition; what offers? E. Valpy, 4 Quairant, Liverpool.

Pharmaceutical Journal from commencement, 1841-1880, unbound; Faraday's "Chemical Manipulation," and many others. Miss Dear, Shaftesbury.

Williamson's "Chemistry" (8s. 6d.) for 5s.; Praunth & Vine's "Botany," 1880, 4s.; Cassell's "Lessons in Greek," 1s. 6d.; Donuegan's Greek-English Lexicon, 3s. 6d.; Parkes' "Chemistry," 1818, 1s. G. Kelly, Arthur Street, Leicester.

The Chemist and Druggist, 94 numbers, from 1874 to 1881 inclusive, nearly complete, in good condition, price 20s.; also Pharmaceutical Journal, 396 numbers, from 1874 to 1881 inclusive, nearly complete, price 25s. Mr. Macdonald, Chemist, Newington, Edinburgh.

Standard Works.—"Physiology," Kirkes, 100 illustrations, 6s.; 120, 7s.; Dalton's, 27 4, 12s. 6d.; Carpenter's, 370, 14s.; "Diseases of Women," Barnes, 169 plates, 14s.; Gaillard Thomas, 191, 12s. 6d.; Churchill, 50, 7s. 6d.; "Midwifery," Ice, 64 plates, 8s. 6d.; Churchill, 122, 7s. 6d.; Smellie, 2 vols., 6s.; Burns, 5s.; Hamilton, 4s.; Osborne's, 4s.; Dewee's, 7s. 6d.; Denman's, 2 vols., calf, 5s.; plain, 3s. 6d.; Science Dictionary, 6s.; Billing's "Principles Medicine," 6s. 6d.; Barclay's "Medical Diagnosis," 6s.; ear (Toynbee), 7s. 6d.; teeth (Bell), 6s.; Lescher's "Pharmacy," 3s. 6d. William Turner, Chemist, Totterdown, Bristol.

Soda-water Plant.

Fifty dozen champagne hottles; what offers? Harvey, Margate.

Syphon-bottles, Mondolot's, pear-shaped, in good order, 7l. 4s. per gross. Baldon & Son, 73 Princes Street, Edinburgh.

American machine, patent bottles, boxes, filters, &c.; nearly new. Apply, F. Wheeler, Guildford.

Barnett & Foster have some second-hand soda-water machinery of their own make for sale. Apply 23r Forston Street, Shepherdess Walk, N.

Patent hottling machine for cork bottles, second hand, by Dows, Clark & Co., as good as new; 4l.; sketch free. Particulars, N. G. Wilcocks, Bath.

Soda-water machine by Sampson Barnett, also gaswork, in good condition; may be seen at work; second hand. Particulars, N. G. Wilcocks, Bath.

Handsome mahogany soda-water stand with circular marble top, as fig. A 57 Maw's catalogue; bought only two years since, and equal to new. Haller, Chemist, Boston.

Shop Fittings.

Two specie jars, Maw's fig. 1, 24-inch, with mahogany stands, gilt tops, 5l. 5s. 185/32. Large and handsome dispensing screen. J. F. Royce, Chemist, Portwood, Stockport.

Show-jar and mahogany stand, good as new; Great Britain Arms—arrowroot. Offers to Griffiths, Kidsgrove, Staffs.

Two counters, mahogany tops, wall glass-case, 50 jars, 60 2d. bottles, six specie jars, 40 digesters, sundry drugs, cheap. Apply, Harrison, 249 Old Chester Road, Tranmere.

Two specie-jars, royal arms on white ground, height 28 inches, circular stands and square mahogany bases; what offers? Chemist, 81 Chalk Farm Road, N.W.

Show-jars. Two handsome jars, elegantly labelled inside, Prince of Wales and Pharmaceutical Society's arms, with handsome enamelled glass covers, nearly new, cost 12l. 12s., cash price 8l. 8s. (lowest). Anderson, 2 Croxsted Road, West Dulwich.

ent insect powder, costing 8d. per lb.;
5s. Ginger-beer powder, equal to any
market; a 2-oz. packet makes two
gallons of ginger beer; recipe, 5s. Egg
powder, without turmeric, costs 7d. per lb.;
1s. 6d. Non-mercurial plate-powder
gives a brilliant polish, cost 5d. per lb.;
12s. 6d. J. David, 22 George Street,
Swan.

aming dentifrice (like "Floriline");
mark ink, sine silver (aniline), writing
exceeds defies chemicals; effervescing
fruit line (resembles Eno's); magic neu-
ralgic drops (never-failing remedy); quinine
and tonic (resembles Pepper's); lime-
juice and glycerine (inseparable, white as
milk); blue-black ink (non-corrosive, sine
iron galls); cherry tooth paste (never
ferme, like Cornel's); brilliantine (in-
separable, like Rimmel's); pill-coating
(pearl white, no mucilage or mastic used);
glycer jelly (perfectly transparent);
rusted marking-ink; hair restorer (colour-
less, deposit, sine silver); aromatic
vinegar toilet vinegar (as Rimmel's); plate-
powder like Stevens' "Silicon"; Oleum
Flavum Conc., for pomades (colour
stable) blue essence ginger (like Hay's);
corn vent, clear (not acid); liquor
capillarpomp. c. buchu et maieo (mixes
clear w. water); gonorrhoea paste, excel-
lent (D Ricord's); taraxacum and podo-
cylidin resembles Pepper's); with many
others, and stamp for list, stating terms.
The preparations are identical with
those prepared by a wholesale West-end firm;
they are really good; all inexpensive to make;
each, each (per lb.). Readers are cautioned
against cheap and worthless imitations. I
am first to advertise formulae in this
journal. Note change of residence,
Analyse care of Mr. Warnes, 130 Camden
Road, N.

Miscellaneous.

change, case honeycomb sponge,
contains 4 pieces, price 4l. 10s. Mitchell,
Chemist, Paisley.

50 Lawrence's spectacles; 2 lbs. 10 ozs. ol.
lavand., Mitcham, 1876; what offers? Holt,
139 Great Ducie Street, Manchester.
Cheap. Twelve strong iron-bound oak store-casks,
suitable for warehouse. Price, apply A. C.
Ridding, 98 Devonshire Street, Sheffield.
112 lbs. finest whole roasted coffee, cost 1s. 1d.
lb.; 1 cwt. 2 qrs. 27 lbs. finest ground chicory,
cost 34s. cwt.; what money offers? 182/27.
Job lot of large teats, black and white, sample
dozen assorted, sent free on receipt of 34d.
postage. Peter Tyrer, Long Lane, Borough,
London.

What cash offers for a 4-guinea Leath & Ross'
homeopathic medicine show-case contain-
ing 38 1s., 39 9d., 33 6d. pills, &c.;
Knight's "History of England" in 8 vols.,
cost 4l. 4s.; 2 vols. *Scribner's*, '79-'80, cost
7s. 6d. each? Key, Chemist, Pontypridd,
Glamorgan-shire.

Two 4-gallon show-bottles, 9 dozen glass-lid
boxes, 11 by 7 by 3; 1 dozen 4-ounce blue
extract pots; 1 dozen 1-lb. wide mouthed
stoppered bottles, labelled; glass syringes,
male or female; two Florida water, one oil-
cistern, 30 gallons; a hot-water bed.
"Bailey's," 72 by 36; refrigerator, Brande's
"Manna of Chemistry," Abel and Bloxam's
"Chemistry," *Pharmaceutical Journal* from
1856, part bound. 181/25.

Quantity of trusses, left cireular, single and
double S. and O., various enema apparatus,
respirators, suspensory bandages, pin leg,
iron pestles and mortars; first-class photo-
graphic apparatus, complete portrait and
land-cape; tea-mill, chest-protectors, first
42 vols. *Lancet*, tincture-press, Crown per-
fumery, Lea & Perrins' coffee, Gowland's
lotion, ol. lavand. ang. opt., isinglass, wax
vestas; all in perfect condition, and very
cheap. Barry, Chemist, Shaftesbury.

WANTED.

A recent copy of Gray's Supplement. 185/19.

One-grain pill machine. State price, Yates,
Chemist, Blackburn.
Oakley Coles "Dental Mechanics," or Balkwell's
"Mechanical Dentistry." 182/2.
A pair of crutches, 3 ft. 3 in. for boy, like fig. 7
Maw's list. Stafford, Ross.
Louise Magic Polish, W. Wade, Chemist, Sidcup,
Kent.
Soap-stamping press, rings, dies, &c.; second-
hand. Wicks, Burnley.
Ice-safe, and everything necessary for ice-cream
manufacturer; send description and prices.
184/21.
Several large iron tanks, fitted with taps; state
measurements, weight, and price. Griffiths,
Kidsgrove, Staffordshire.
Specie-jar, with or without cover, height 27 in.
Price, &c., to M. J. Bentley, Chemist,
Sheffield.
Druggists' Stock, fixtures and fittings pur-
chased for cash. Mr. James, 82 Parkhurst
Road, Holloway, N.
"Year-book of Pharmacy," 1878, 1879, and
1880. C. B. Miller, 34 Darnley Road,
Hackney.
Bicycle wanted, 40 in., exchange for Muspratt's
"Chemistry" and "Circle of Sciences."
Kelsey, 163 Marlborough Road, Dublin.
Four swan-necked show window-bottles, 3 or
4 gallon. State particulars, Wilson, Chemist,
Leven Street, Edinburgh.
Four carboys, pear-shaped, height about 26 in.,
carriage to be paid. Spring & Bell, Chemists,
Brigg, Lincolnshire.
A good reliable Safe, and Royle's "Materia
Medica," late edition; state lowest. Daykin,
Chemist, Ripley, Derbyshire.
Wanted in Exchange.—Right trusses, glass
jars, tooth-brush case, small printing-press,
glazier's diamond, Jeyes' disinfecting solu-
tion, or offers. Barry, Chemist, Shaftesbury.
The "Analyst," No. 13 to 57, or in yearly vols,
which include those; also Vile's "Artificial
Mannres," by Crookes. Address, "The
Public Analyst," Greenock.
We are still in want of February number of *The
Chemist and Druggist*; 8d. each will be paid
for complete copies sent to Publisher
C. & D., 44A Cannon Street, E.C.



report of the Board of Trade for April shows a slight
improvement both as regards imports and
is of very small dimensions. The imports of
mounted in value to 36,079,207l., against
3641l. April 1881. Except a marked increase in
wheat imported there is nothing very notice-
able of the returns. The exports figure for
1881, 18,130,331l. in the corresponding month
chemicals again figure badly, as will be seen
in the subjoined:—

	April, 1881	April, 1882
alkali..	.. .. cwt. 593,408	.. 583,992
to ..	.. .. value £166,081	.. £180,739
chemis ..	.. .. £218,156	.. £178,425

slight decrease in quantity and the improvement in
as regards alkali appears to suggest that prices had
advanced to the extent of nearly 10 per cent.—an indication
which does not seem to be satisfactorily based.

The chemical market cannot be said to have
improved in the last month, though orders are said to be
up to the average. Soda crystals just after our last
month, but quickly lost that position, and are
dealt in at even money. Other alkali products are
nearly the same, but in all there is a too abundant

advance, cream of tartar, tartaric and citric acids,
looked for during the past month; but it appears that
the present at least there is to be no strain on the
market, all having been rather pressed for sale with a re-
gular decline. Citric closes rather firmer, 2s. being the

lowest price at which business can now be done, though
transactions at 1s. 11½d. have taken place.

OXALIC ACID is still 7d. for first hand, but second-hand
lots have dealt in at 6½d.

SALTPETRE is 1s. lower for British refined than last
month.

BORAX is slightly higher for some makes.

IODINE selling as previously at 6d. per oz. for all the
products.

GLYCERINE is being offered at easier prices. Makers are
apparently beginning to imagine that one or other of the
various patents which have been taken out for obtaining
the product from soap-lyes may have "something in it."

QUININE is very quiet at lower prices quoted. American
prices, which now to a great degree rule the market,
are lower than on this side. For the present there is an
entire absence of activity in the market there, and, by
latest advices, 82 could not be obtained for German brands.

The effect of the removal of the duty in the United
States seems to have caused an enormous increase in the
consumption of quinine. The average imports of bark seem
to have been rather more than maintained during the three
years which have succeeded that event, so that it may be
supposed the home production has kept up, while the
quantity of quinine imported has advanced from 17,549 ozs.
in 1878 to 408,851 in 1881.

The bark sales have passed off very quietly, most of the
transactions of the past month having been private. There
has been a disposition to let go South American sorts at
somewhat easier prices, which characteristic is reflected in
our prices current.

There have been two drug sales since our last, and busi-
ness seems to have been fairly active.

ALOES.—Scarcity of good Cape has caused some slight
advance; other varieties unchanged.

BALSAMS.—Copaiba is in rather better supply, but prices are well maintained. Peru is still most scantily offered.

CAMPHOR is much firmer in appearance. Japan has been sold for 85s. A case of American refined on the market last week realised 1s. 2d.

CARDAMOMS.—But little business transpiring, in consequence of the high demands of holders.

CUBERS.—Holders seem to think that the supply coming forward will be hardly sufficient to meet the demand, and for the present they are again asking 10% per cwt., after the price had fallen to 7l. 10s.

ESSENTIAL OILS.—Aniseed is 6d. lower. Lemon is being quoted at somewhat easier prices. Peppermint is lower for American, English, and Japan.

GUMS.—Gamboge is being bought up. Rather better prices for Turkey have been realised. Shellac has been very dull, but a slight reaction has occurred lately.

HONEY.—Jamaica somewhat largely taken at prices varying from 36s. to 43s.

INDIGO.—The April sales, at which over 12,000 chests of East India were offered, went off flatly, Continental buyers especially being in small attendance. Bengals sold at 3d. to 6d. below the January rates; Ondes generally at about 6d. decline; Kurpah's from 4d. to 6d.; and dry-leaf Madras 2d. to 3d. lower.

IPECACUANHA was bought at the April sales at higher prices. This month holders will not let go for less, and no business has resulted publicly.

ISINGLASS.—The monthly sales on the 25th ult. resulted in a slight decline of about 1d. per lb.

LEAVES.—Coca bought in at 1s. 6d. per lb. Jahorandi sold without reserve for 2s. per lb. Rose bought in at 6d. Buchu and senna unchanged.

MUSK has been in rather brisk demand at the sales of the past month. First pile has advanced 3s. to 4s.; second and third piles from 6s. to 8s.

OILS.—Almond oil is likely to be rather cheaper, as there are prospects of a good crop. Castor in abundant supply, and fractionally lower. Cod-liver.—10 casks of Newfoundland sold at last sales at 7s. Olive is easier, in consequence of the certainty of a good crop, but it is thought that the effect of this assurance is by this time fully discounted.

OPIMUM is firm in the London market, with not much doing. From Smyrna dulness is reported. The reports of injury to the crops by frost have been confirmed, but, as this always happens to a greater or less extent, the chance of a fair average crop is a very reasonable one. If estimates are to be relied upon, we may look for a crop of about 5,000 to 6,000 cases. As a matter of fact, the crops generally exceed the Smyrna estimates made at this season; but, with the above added to the surplus of last year's excessive supply, there would be no difficulty in getting on very comfortably for another twelve months. Locusts and speculators have yet to be allowed for. Outside these, the probabilities are that opium will not greatly fluctuate during the current year.

WAX.—Jamaica bees has been competed for, an advance resulting. Wax from Jamaica, Australia, Madagascar, Mauritius, India, and Japan is now on the market.

TURPENTINE has been declining all the month, and now sells at 42s., and is quoted 33s. to 33s. 6d. for September-December.

PETROLEUM fluctuates within very close limits. The latest quotations are the highest of the month—namely, spot, 5½; June, 5½ to 6; July, 6½; August, 6½; September-December, 6½.

Messrs. A. & M. ZIMMERMANN favour us with the following observations:—

COD-LIVER OIL.—Since our last report in this Journal we have experienced, contrary to all expectations, a continued scarcity of the supply of cod-liver oil. We have had good reason to expect that the second part of the fishing season might eventually make up for the deficiency of the supply

from the first. We hear, however, from Firmarken, that the floating factory is now waiting the delivery of a short message "No fishing." The very small quantity which we have ourselves obtained, and the little which has come to England from other sources, do not by far meet the requirement of the year, and there is no doubt whatever that the little stock in dealers' hands will soon be taken away by the trade, and high prices must prevail during the year.

QUININE.—Brunswick brand has been in steady demand from the home trade, and prices tend to slightly increase.

GALL PRODUCTS.—A report from a Continental firm in this Journal last month stated that these products, though manufactured from China galls of some 100 per cent. increased value, are balanced in cost price by the lower value of ether and alcohol. This information may, as we have experienced, mislead many a dealer, who is ignorant of the process of manufacture of these products, but any half-educated chemist will admit that the very minimum part either plays in the manufacture of gall products compared with the maximum importance of the raw materials makes it altogether absurd to put such a theory forward, which can only cast suspicion upon the good sense of the reporter. The prices of gall products have still to be raised, and this more than hitherto has been done.

GLYCERINE has experienced a considerable decline in price, owing to the solution of a speculative difficulty, familiar to the principal holders. At the reduced price, however, an active demand has sprung up, so much so that it cannot fail to cause again higher quotations to prevail. In all appearances it does not seem likely that glycerine will ever again sell at the old low prices, and buyers will do well to be wisely in providing their wants at present prices.

OTTO OF ROSES.—Our Kezanlik correspondent some time ago pictured the despair of the people of the district after a sharp frost had spoiled all the beds of roses. Public prayers and processions, as he reports, were offered to Heaven for the blessing of a warm rain, particularly necessary in order to revive the much damaged crop. This report had hardly reached us, and other Kezanlik messages had confirmed the desolate state of things. Kezanlik when a rise in the price of otto immediately took place. It appears, however, that since then the rain somewhat desired has taken place, and it may yet be possible to have good yields this season.

The following is the Report of the Stocks in the Port of London on April 30.

	1882	1881		82	1881
Aloes .....cs	3,085	3,103	Gum (cont.)—		
"kegs	3	—	Benjamin... pkgs	213	2,770
"gourds	105	215	Damar.... "	266	5,370
Aniseed, Star chts	465	588	Galbanum "	24	—
Arrowroot .....cs	10,611	12,619	Gamboge.. "	154	221
"bxs & tins	6,043	9,265	Guaiaacum.. "	46	22
Balaam.....cs, &c.	31	35	Kino..... "	164	—
Bark, Medicinal			Kowrie.....tins	622	107
"cs, &c.	980	1,079	Mastic .....pkgs	109	157
"sns, &c.	62,846	30,083	Myrrh, E.I. "	240	370
Borax.....pkgs	595	682	Olibanum.. "	950	6,776
Bees' Wax .....bls & sns	447	918	Sandarac... "	553	—
"cs & cs cakes	1,037	1,602	Senegal.....tins	—	—
Wax, Jap. vgtbl. pk	4,482	5,964	Tragacanth pkgs	449	1,099
Camphor ....pkgs	4,406	3,825	Ipecac. ....cs & bgs	219	298
Cardamoms .....chts	733	513	Nux Vomica pkgs	504	1,003
Coccol. Ind. bgs, &c.	537	796			
Colombo root pkgs	1,599	531	Oil—		
Cream Tartar.....cs	71	108	Caster .....cs	879	67
Cubeb.....bgs	95	98	"tins	921	9,947
Dragon's blood chts	189	203	Palm .....tins	117	10,194
Galls, China and Japan.....cs	190	2,750	Cocconut.....tins	390	1,394
Trky & Prsn aks	6,334	1,408	Olive .....cs, &c.	552	146
			Aniseed .....cs	287	228
			Cassia .....cs	386	947
			Opium .....chts, &c.	—	746
			Rhubarb.....chts	766	827
			Sarsaparilla.....bls	689	1,007
			Senna, ....bls, &c.	692	1,191
Gum—					
Ammoniac pkgs	266	321	Shellac—		
Animi & Copal pkgs	7,828	3,986	Orange.....chts, &c.	508	15,718
Arabic, Barbary pkgs	2,451	1,219	Garnet.. "	250	4,646
Turkey.. "	2,353	1,918	Button.. "	141	2,998
E.I..... "	2,728	2,390	Turmeric .....tins	14	705
Assafoetida ..	288	627	Vermilion .....chts		

Monthly Price Current.

Noted in the following list are those actually obtained in the market for articles sold in bulk. Our Retail Subscribers must purchase at these market prices, but they may draw from the conclusions respecting the prices at which articles are sold by the Wholesale Firms.

	Last Month		This Month	
	s. d.	s. d.	s. d.	s. d.
Acetic..... per lb.	0 3½	0 0	0 3½	0 0
Alum..... "	0 6	0 9	0 6	0 9
Alum. chloride..... "	0 11	1 0	0 11	1 0
Alum. sulphate..... "	3 6	3 6	3 6	3 6
Alum. gum..... per oz.	0 9	0 0	0 9	0 0
Alum. sulphate..... "	2 0½	2 1	2 0	0 0
Alum. sulphate..... "	3 3	3 10	3 3	4 0
Alum. sulphate..... per cwt.	4 6	7 6	4 6	7 6
Alum. sulphate..... per lb.	0 3½	0 4	0 3½	0 4
Alum. sulphate..... "	0 7	0 0	0 6½	0 7
Alum. sulphate..... "	0 1	0 0	0 1	0 0
Alum. sulphate..... "	7 0	7 9	6 9	9 6
Alum. sulphate..... "	1 6	2 7	1 4	3 0
Alum. sulphate..... "	1 8½	0 0	1 8½	1 8½
Alum. sulphate..... "	1 8½	0 0	1 8½	0 0
Alum. sulphate..... per cwt.	32 0	0 0	32 0	0 0
Alum. sulphate..... "	54 0	0 0	54 0	0 0
Alum. sulphate..... "	24 6	0 0	24 6	0 0
Alum. sulphate..... "	10 6	0 0	10 9	0 0
Alum. sulphate..... per ton	127 6	137 6	127 6	137 6
Alum. sulphate..... per cwt.	8 9	9 6	8 9	9 6
Alum. sulphate..... "	10 9	12 6	10 6	12 0
Alum. sulphate..... "	116 0	124 0	104 0	116 0
Alum. sulphate..... "	75 0	95 0	70 0	75 0
Alum. sulphate..... per lb.	14 0	14 8	12 0	14 3
Alum. sulphate..... per oz.	0 5	0 6	0 6	0 0
Alum. sulphate..... "	0 8	0 0	0 8	0 0
Alum. sulphate..... per lb.	1 0	1 6	1 0	1 6
Alum. sulphate..... "	5 0	0 0	5 0	0 0
Alum. sulphate..... per bott.	117 6	0 0	122 6	125 0
Alum. sulphate..... per lb.	2 11½	0 0	2 11	0 0
Alum. sulphate..... "	2 10½	0 0	2 10	0 0
Alum. sulphate..... "	0 0	0 0	0 0	0 0
Alum. sulphate..... "	15 6	18 3	14 6	18 3
Alum. sulphate..... "	12 0	0 0	10 0	0 0
Alum. sulphate..... "	22 0	0 0	22 0	0 0
Alum. sulphate..... per ton	122 6	125 0	122 6	125 0
Alum. sulphate..... "	137 6	0 0	137 6	0 0
Alum. sulphate..... per lb.	0 6½	0 6½	0 6½	0 6½
Alum. sulphate..... per ton	600 0	760 0	600 0	760 0
Alum. sulphate..... "	439 0	440 0	405 0	420 0
Alum. sulphate..... per cwt.	80 0	98 0	87 6	96 0
Alum. sulphate..... "	65 0	80 0	70 0	85 0
Alum. sulphate..... "	36 0	36 6	36 0	36 6
Alum. sulphate..... "	5 0	5 3	5 0	5 3
Alum. sulphate..... per lb.	69 0	61 0	60 0	63 0
Alum. sulphate..... "	2 7½	0 0	2 7	0 0
Alum. sulphate..... "	4 5	4 7	4 5	4 7
Alum. sulphate..... "	5 6	6 0	5 6	6 0
Alum. sulphate..... per cwt.	19 9	0 0	19 9	0 0
Alum. sulphate..... per ton	42 6	45 0	42 6	45 0
Alum. sulphate..... per lb.	2 0½	0 0	2 0	0 0
Alum. sulphate..... per cwt.	122 6	123 0	120 0	122 0
Alum. sulphate..... "	106 0	0 0	106 0	0 0
Alum. sulphate..... "	4 0	4 6	3 6	4 6
Alum. sulphate..... "	4 3	5 3	4 3	5 3
Alum. sulphate..... "	40 0	0 0	40 0	0 0
Alum. sulphate..... "	72 0	0 0	72 0	0 0
Alum. sulphate..... "	7 3	7 6	7 3	7 6
Alum. sulphate..... per lb.	1 11	2 0	1 11	2 0
Alum. sulphate..... "	0 6	0 0	0 6	0 0
Alum. sulphate..... "	29 0	0 0	29 0	0 0
Alum. sulphate..... per cwt.	51 0	0 0	46 0	0 0
Alum. sulphate..... per lb.	0 5½	0 0	0 5½	0 0
Alum. sulphate..... "	0 10	0 11½	0 10	0 11½
Alum. sulphate..... "	1 11	2 0	1 11	2 0
Alum. sulphate..... "	9 0	10 6	9 0	10 6
Alum. sulphate..... "	1 5	1 6	1 5	1 6
Alum. sulphate..... per cwt.	9 0	0 0	9 0	0 0
Alum. sulphate..... per lb.	7 6	0 0	7 6	0 0
Alum. sulphate..... "	10 0	0 0	9 6	0 0
Alum. sulphate..... "	9 10½	10 0	9 3	0 0
Alum. sulphate..... "	9 0	0 0	8 9	0 0
Alum. sulphate..... per lb.	0 9½	0 9½	0 9	0 9½
Alum. sulphate..... per cwt.	44 0	45 0	44 0	45 0
Alum. sulphate..... "	22 0	22 8	21 6	21 9

Saltpetre:—(cont.)		Last Month		This Month	
		s. d.	s. d.	s. d.	s. d.
Bengal, over 6 per	cent..... per cwt	21 0	21 9	20 0	21 9
British, refined.....	"	27 6	29 0	26 6	28 0
Soda: Bicarbonate.....	"	9 3	0 0	9 3	0 0
Hwds.....	"	45 0	0 0	45 0	0 0
Carbonate:					
Soda Ash..... per deg.		0 1½	0 0	0 1½	0 0
Soda Crystals..... per ton		61 3	0 0	60 0	61 3
Caustic.....	"	9 3	9 9	9 3	9 9
Hypophosphite..... per cwt.		8 0	0 0	8 0	0 0
Nitrate.....	"	14 3	0 0	13 9	14 0
Zinc Sulphate.....	"	12 0	14 0	12 0	14 0
SUGAR OF LEAD, White	"	36 0	0 0	36 0	0 0
Brown	"	26 0	0 0	26 0	0 0
VERDIGRIS..... per lb.		0 8	1 2	0 8	1 2
VERMILION, English.....	"	2 5	0 0	2 5	0 0
China.....	"	2 6	0 0	2 6	2 8
DRUGS.					
ALOE, Hepatic..... per cwt.		60 0	140 5	60 0	140 0
Socotrine.....	"	55 0	160 0	55 0	160 0
Cape, good.....	"	51 0	62 0	52 0	63 0
Inferior.....	"	43 0	50 6	50 0	51 6
Barbadoes.....	"	45 0	120 0	45 0	150 0
Curaçoa.....	"	45 0	120 0	45 0	120 0
AMBERGRIS, grey..... per oz.		102 6	120 0	90 0	120 0
BALSAM—					
Canada..... per lb.		1 6	0 0	1 6	0 0
Capivi.....	"	2 4	2 8	2 4	2 8
Peru.....	"	13 0	14 0	13 0	14 0
Tolu.....	"	2 3	2 4	2 3	2 4
BARKS—					
Canella alba..... per cwt.		16 6	22 0	16 6	22 0
Cascarilla.....	"	16 6	18 0	16 6	18 0
CINCHONA—					
Peru, gray..... per lb.		0 8	2 0	0 8	2 0
Calisaya, flat.....	"	2 0	3 6	1 9	3 0
" quill.....	"	4 9	6 6	4 6	6 0
Cartagena.....	"	0 5½	3 6	0 5½	3 6
Columbian.....	"	0 5	4 6	0 5	3 3
Cuprea.....	"	1 11	3 0	0 5	2 10
New Granada.....	"	1 0	6 0	2 9	6 0
Pitayo & Maracaibo.....	"	0 4	2 9	0 4	2 9
Red.....	"	1 9	10 0	1 9	10 0
East India, crown.....	"	0 5	6 9	0 8	6 9
" red.....	"	0 5	4 6	0 6	5 9
BUCHU LEAVES.....	"	0 5	1 5	0 5	1 5
CAMPHOR, China..... per cwt.		80 0	0 0	80 0	0 0
Japan.....	"	82 6	0 0	85 0	0 0
Refin. Eng..... per lb.		1 3	0 0	1 3½	0 0
Tablets.....	"	1 3½	0 0	1 4	0 0
CANTHARIDES, China.....	"	2 0	2 2	2 3	0 0
" Russian.....	"	3 6	3 9	3 9	3 10
CHAMOMILE FLOWERS..... per cwt.		15 6	70 0	15 6	70 0
CASTOREUM..... per lb.		17 6	30 0	17 6	30 0
DRAGON'S BLOOD, Ip..... per cwt.		65 0	210 0	45 0	240 0
ERGOT OF RYE..... per lb.		1 9	2 0	0 9	1 0
FRUITS AND SEEDS (see also Seeds and Spices)					
Anise, China Star..... per cwt.		95	0 0	97 6	100 0
Spanish, &c.....	"	20	0 0	20 0	30 0
Beans, Tonquin..... per lb.		3	0 0	3 0	5 0
Cardamoms, Malabar, good.....	"	5 3	7 6	5 3	7 0
Inferior.....	"	3 0	5 0	3 0	5 0
Aleppy.....	"	2 6	5 6	2 6	5 6
Madras.....	"	2 6	5 0	2 6	5 0
Ceylon.....	"	1 9	3 6	1 9	3 0
Malabar sorts.....	"	4 9	6 6	2 6	6 10
Cassia Fistula..... per cwt.		6 6	20 0	9 0	15 0
Cocculus Indicus.....	"	10 0	11 0	10 0	11 0
Colocynth, apple..... per lb.		0 9	1 9	1 0	1 3
Croton Seeds..... per cwt.		50 0	55 0	50 0	55 0
Cutbush.....	"	150 0	0 0	200 0	0 0
Cumin.....	"	35 0	36 0	35 0	36 0
Fenugreek.....	"	9 0	12 0	9 0	12 0
Juniper Berries.....	"	9 6	10 6	10 0	10 6
Nux Vomica.....	"	8 6	10 0	8 6	10 0
Tamarinds, E. India.....	"	6 9	14 0	6 9	14 0
West India.....	"	9 0	13 0	10 0	13 0
Vanilla, large..... per lb.		17 0	27 0	16 0	23 0
Inferior.....	"	4 6	16 6	6 6	15 6
HONEY, Chili..... per cwt.		40 0	50 0	40 0	50 0
Jamaica.....	"	34 0	46 0	34 0	46 0
IPECACUANHA..... per lb.		4 0	4 8	3 11	4 6
ISINGLASS, Brazil.....	"	2 5	4 6	2 3	4 6
Tongue sort.....	"	2 6	5 7	2 6	5 7
East India.....	"	0 6	5 0	0 6	4 10
West India.....	"	2 4	4 8	2 4	4 5
Russ. long staple.....	"	7 0	10 3	7 0	10 3
" inferior.....	"	0 0	0 0	0 0	0 0
" Simovia.....	"	2 2	2 4	2 2	2 4
JALAP, good.....	"	0 10	1 0	1 0	1 2
Inferior, and stems.....	"	0 7	0 9½	0 10	0 11
LEMON JUICE..... per deg.		0 0	0 0	0 0	0 0
LIME JUICE..... per gall.		1 5	1 9	1 5	1 8
Liquorice, Spanish..... per cwt.		0 0	0 0	0 0	0 0
Liquorice Root.....	"	0 0	0 0	0 0	0 0
MANNA, flaky..... per lb.		4 6	5 0	4 6	5 0
MUSK, Tonquin pod..... per oz.		20 0	74 0	30 0	77 0
Grain.....	"	40 0	65 0	45 0	70 0
Yunnan pod.....	"	50 0	36 6	30 0	40 0
OILS (see also separate list)					
Almond, expressed..... per lb.		1 5	0 0	1 5	0 0
Castor, 1st pale.....	"	0 3½	0 4½	0 3½	0 4
second.....	"	0 3½	0 3½	0 3½	0 3½
Cod-liver..... per gall.		6 6	8 0	6 6	8 0

	Last Month		This Month	
	s. d.	s. d.	s. d.	s. d.
Essential Oils:				
Almond per lb.	30 0	to 0 0	30 0	to 0 0
Anise-seed, star ..	8 0	.. 0 0	7 6	.. 0 0
" German ..	10 6	.. 0 0	11 0	.. 0 0
Bergamot	8 6	.. 9 0	7 3	.. 0 0
Cajeput per bott.	3 0	.. 3 4	3 0	.. 3 4
Caraway per lb.	3 0	.. 6 6	3 0	.. 6 6
Cassia	3 11	.. 4 0	3 11	.. 4 0
Cinnamon per oz.	5 6	.. 0 0	1 8	.. 3 0
Cinnamon-leaf ..	0 2½	.. 0 3	0 2½	.. 0 3
Citronelle	0 2½	.. 0 0	0 2½	.. 0 0
Clove	6 6	.. 6 9	6 0	.. 0 0
Juniper	0 0	.. 0 0	1 3	.. 8 0
Lavender, Exotic .. per lb.	2 6	.. 6 9	2 6	.. 6 9
" Mitcham ..	120 0	.. 125 0	120 0	.. 125 0
Lemon	9 0	.. 10 6	8 3	.. 8 6
Lemongrass per oz.	0 2½	.. 0 0	0 2½	.. 0 0
Neroli	6 6	.. 9 6	6 6	.. 9 6
Nutmeg	0 5	.. 0 6	0 5	.. 0 6
Orange per lb.	7 3	.. 11 3	6 6	.. 9 0
Otto of Roses per oz.	18 0	.. 40 0	18 0	.. 40 0
Patchouli	2 0	.. 4 1	1 4	.. 2 6
Peppermint:				
American per lb.	12 6	.. 0 0	11 6	.. 0 0
(H.G. Hotchkiss) ..	13 0	.. 0 0	12 6	.. 0 0
English	24 0	.. 25 0	23 0	.. 0 0
German	13 9	.. 0 0	13 9	.. 0 0
Japan	9 0	.. 11 0	7 0	.. 8 0
" (Cocking's) ..	11 0	.. 0 0	10 0	.. 10 6
Rosemary	3 0	.. 0 0	3 0	.. 0 0
Sassaparilla	2 6	.. 0 0	2 6	.. 0 0
Spearmint	9 0	.. 10 0	10 0	.. 11 0
Thyme	1 9	.. 4 2	1 9	.. 4 2
Mace, expressed per oz.	0 2	.. 0 3	0 2	.. 0 3
OPIMUM, Turkey..... per lb.	14 0	.. 16 6	14 0	.. 16 6
" inferior	8 0	.. 13 6	12 0	.. 13 6
QUASSIA (bitter wood) per ton	80 0	.. 100 0	80 0	.. 100 0
RHUBARB, China, good and fine per lb.	2 6	.. 4 0	2 6	.. 4 0
" Middling to fair ..	1 9	.. 2 3	1 9	.. 2 3
ROOTS—Calumba per cwt.	16 0	.. 25 6	16 0	.. 24 0
China	22 0	.. 24 0	22 0	.. 24 0
Chiretta	0 10	.. 1 0	0 5	.. 0 9
Cus-Cus	10 6	.. 11 6	10 0	.. 11 0
Galangal	20 0	.. 23 0	20 0	.. 23 0
Gentian	19 0	.. 21 0	19 0	.. 21 0
Orris	30 0	.. 75 0	25 0	.. 70 0
Pellitory	42 0	.. 60 0	42 0	.. 60 0
Pink	1 10	.. 2 0	1 10	.. 2 0
Rhatany	0 2	.. 0 4	0 2	.. 0 4
Seneka	2 9	.. 0 0	2 9	.. 0 0
Snake	1 8	.. 1 10	1 8	.. 1 10
SAFFRON, Valencia ..	50 0	.. 52 0	50 0	.. 52 0
SAISAPAGILLA, Lima .. per lb.	0 5	.. 0 6	0 5	.. 0 6
Guayaquil	1 5	.. 1 7	1 5	.. 1 7
Honduras	1 4	.. 1 8	1 4	.. 1 8
Jamaica	1 7	.. 2 2	1 3	.. 2 2
SASSAFRAS	0 0	.. 0 0	0 0	.. 0 0
SCAMMONY, Virgin .. per lb.	35 0	.. 40 0	30 0	.. 32 0
second and ordinary ..	10 0	.. 50 0	10 0	.. 28 0
SENNA, Bombay	0 1	.. 0 3	0 1	.. 0 3
Tinnivelly	0 1½	.. 1 2	0 1½	.. 1 2
Alexandria	0 1	.. 1 0	0 1½	.. 1 0
SPERMACETI, refined ..	0 10	.. 1 0	0 10	.. 1 0
American	0 9	.. 0 0	0 9	.. 0 0
SQUILLS	0 1	.. 0 1½	0 1	.. 0 1½
GUMS.				
AMMONIAC, drop..... per cwt.	1 10	.. 2 5	1 10	.. 2 5
ANIMI, fine washed	17 0	.. 20 0	17 0	.. 19 0
" sorts	10 10	.. 14 10	11 10	.. 14 10
ARABIC, pale picked ..	1 13	.. 1 16	1 13	.. 1 16
" sorts mid. to fine ..	1 9	.. 1 12	1 9	.. 1 12
TURKEY, pick. gd. to fin.	5 0	.. 7 0	5 10	.. 8 10
" second & inferior ..	2 0	.. 4 15	2 5	.. 5 0
" sorts	2 0	.. 2 5	1 15	.. 2 0
ASSAFETIDA, cm. to fin.	0 10	.. 3 10	0 10	.. 3 10
BENJAMIN, Siam, 1st & 2nd	15 0	.. 30 0	15 0	.. 30 0
Sumatra	5 0	.. 10 10	5 0	.. 10 10
COPAL, Manilla	15 0	.. 75 0	15 0	.. 70 0
Angola, red	142 6	.. 150 0	142 6	.. 150 0
DAMMAR, pale	90 0	.. 100 0	90 0	.. 95 0
EUPHORBUM	20 0	.. 24 0	20 0	.. 24 0
GALBANUM	0 3	.. 0 10	0 3	.. 0 10
GAMBOGE, picked pipe .. per cwt.	295 0	.. 352 6	295 0	.. 360 0
GUAIACUM	0 9½	.. 2 0	0 9½	.. 2 0
KINO	57 0	.. 80 0	57 0	.. 70 0
KOWRIE, sorts	50 0	.. 60 0	50 0	.. 60 0
" selected	165 0	.. 210 0	160 0	.. 240 0
MASTIC, picked..... per lb.	2 6	.. 3 9	2 0	.. 3 6
MYRRH, good and fine .. per cwt.	102 6	.. 135 0	1 2 6	.. 135 0
" ordinary to fair ..	70 0	.. 1 0	70 0	.. 1 0
OLIBANUM, p. drop	50 0	.. 65 0	49 0	.. 64 0
" amber & yellow ..	44 0	.. 49 0	44 0	.. 48 0
SENEGAL	30 0	.. 40 0	30 0	.. 40 0
SANDARAC	117 6	.. 127 6	160 0	.. 1 2 6
SHELLAC, Orange	130 0	.. 140 0	122 6	.. 140 0
" Liver	93 0	.. 120 0	97 6	.. 120 0
THUS	15 0	.. 17 0	15 0	.. 17 0
TRAGACANTH, leaf	280 0	.. 400 0	280 0	.. 400 0
" in sorts	40 0	.. 270 0	40 0	.. 270 0

OILS.

	£ s.	£ s.	£ s.	£ s.
SEAL, pale per tun	30 0	.. 31 0	32 0	.. 33 0

Oils:—(cont.)

	£ s.	£ s.	£ s.	£ s.
SEAL, yellow to tinged .. per tun	27 0	to 29 10	27 0	to 29 10
" brown	25 0	.. 26 10	25 0	.. 26 10
SPEARMINT	73 0	.. 71 0	70 0	.. 71 0
COD	31 0	.. 0 0	30 0	.. 0 0
WHALE, South Sea, pale ..	28 0	.. 29 0	28 0	.. 29 0
" yellow	27 0	.. 27 10	27 0	.. 27 10
" brown	23 0	.. 24 0	23 0	.. 24 0
" East India, Fish ..	0 0	.. 0 0	0 0	.. 0 0
OLIVE, Seville per ton	40 0	.. 0 0	40 0	.. 0 0
" Gioja	0 0	.. 0 0	0 0	.. 0 0
" Levant	38 10	.. 39 0	38 10	.. 39 0
" Mogador	38 0	.. 38 10	38 0	.. 38 10
" Spanish	40 0	.. 40 10	40 0	.. 40 10
" Sicily	40 0	.. 41 0	40 0	.. 41 0
COCOANUT, Cochín	34 10	.. 35 0	34 10	.. 35 0
" Ceylon	28 0	.. 28 5	28 0	.. 28 5
" Mauritius	28 10	.. 0 0	28 10	.. 0 0
PALM, fine	33 0	.. 0 0	33 0	.. 0 0
LINSEED	25 0	.. 25 2½	25 0	.. 25 2½
RAPESEED, English, pale ..	30 0	.. 0 0	30 0	.. 0 0
" brown	28 0	.. 0 0	28 0	.. 0 0
COTTONSEED	26 0	.. 0 0	26 0	.. 0 0
LARD	60 0	.. 61 0	60 0	.. 61 0
TALLOW	26 10	.. 45 0	26 10	.. 45 0
TURPENTINE, American .. per cwt.	s. d.	s. d.	s. d.	s. d.
PETROLEUM, refined .. per gall.	0 5½	.. 0 5½	0 5½	.. 0 5½
" Spirit	0 7	.. 0 7½	0 7	.. 0 7½

SEEDS.

CANARY	50 0	.. 75 0	50 0	.. 75 0
CARAWAY, English..... per cwt.	0 0	.. 0 0	0 0	.. 0 0
" German, &c.	28 0	.. 30 0	28 0	.. 30 0
CORIANDER	16 0	.. 24 0	16 0	.. 24 0
HEMP	29 0	.. 30 0	29 0	.. 30 0
LINSEED, English	0 0	.. 0 0	0 0	.. 0 0
" Black Sea & Azof ..	43 6	.. 0 0	43 6	.. 0 0
" Calcutta	45 6	.. 0 0	45 6	.. 0 0
" Bombay	45 6	.. 0 0	45 6	.. 0 0
" St. Petersburg ..	44 0	.. 0 0	44 0	.. 0 0
Mustard, brown .. per bshl.	0 0	.. 0 0	0 0	.. 0 0
" white	5 0	.. 10 0	5 0	.. 10 0
POPPY, East India per qr.	41 0	.. 0 0	41 0	.. 0 0

SPICES.

CASSIA LIGNEA..... per cwt.	34 6	.. 35 0	34 6	.. 35 0
" Vera	25 0	.. 33 0	25 0	.. 33 0
" Buds	43 6	.. 45 0	43 6	.. 45 0
CINNAMON, Ceylon :				
" 1st quality..... per lb.	1 2	.. 2 11	1 2	.. 2 11
" 2nd do.	1 0	.. 1 11	1 0	.. 1 11
" 3rd do.	0 10	.. 1 6	0 10	.. 1 6
" Tellicherry	0 8	.. 1 0	0 8	.. 1 0
" Chips	0 2½	.. 0 5½	0 2½	.. 0 5½
CLOVES, Penang	1 8	.. 2 0	1 8	.. 2 0
" Amboyna	1 1	.. 1 4	1 1	.. 1 4
" Zanzibar	0 9	.. 0 10	0 9	.. 0 10
GINGER, Jam., fine per cwt.	100 0	.. 200 0	100 0	.. 200 0
" Ord. to good	45 0	.. 95 0	45 0	.. 95 0
" African	28 0	.. 0 0	28 0	.. 0 0
" Bengal	25 6	.. 0 0	25 6	.. 0 0
" Malabar	0 0	.. 0 0	0 0	.. 0 0
" Cochín	36 0	.. 112 6	36 0	.. 112 6
PEPPER, Black, Malabar .. per lb.	0 5½	.. 0 6	0 5½	.. 0 6
" Singapore	0 5	.. 0 0	0 5	.. 0 0
" White	0 7½	.. 0 0	0 7½	.. 0 0
" Cayenne	0 8	.. 1 4	0 8	.. 1 4
MACE, 1st quality	1 5	.. 2 4	1 5	.. 2 4
" 2nd and inferior ..	1 3	.. 1 4	1 3	.. 1 4
NUTMEGS, 78 to 60 lbs.	2 5	.. 3 8	2 5	.. 3 8
" 90 80 ..	2 2	.. 2 4	2 2	.. 2 4
" 132 95 ..	2 0	.. 2 1	2 0	.. 2 1
PIMENTA.....	0 3½	.. 0 4	0 3½	.. 0 4

VARIOUS PRODUCTS.

COCHINEAL—				
" Honduras, black per lb.	0 0	.. 0 0	0 0	.. 0 0
" silver	0 0	.. 0 0	0 0	.. 0 0
" Mexican, silver	0 0	.. 0 0	0 0	.. 0 0
" silver	0 0	.. 0 0	0 0	.. 0 0
" Tenerife, black	1 5	.. 1 1	1 5	.. 1 1
" silver	1 4	.. 1 1	1 4	.. 1 1
GALLS, Tky blue	60 0	.. 65 0	60 0	.. 65 0
" China	96 0	.. 0 0	96 0	.. 0 0
INDIGO, Bengal	3 9	.. 7 0	3 9	.. 7 0
" Madras	1 2	.. 6 0	1 2	.. 6 0
" Kurpah	1 6	.. 6 0	1 6	.. 6 0
" Oude	2 6	.. 6 0	2 6	.. 6 0
" Guatemala	3 4	.. 7 0	3 4	.. 7 0
ROSIN, American per cwt.	7 0	.. 11 6	7 0	.. 11 6
SOAP, Castile	28 0	.. 0 0	28 0	.. 0 0
SOY, China	1 11	.. 2 11	1 11	.. 2 11
WAX, BEES, English .. per cwt.	£8 0	.. £9 6	£8 0	.. £9 6
" Jamaica	5 10	.. 6 1	5 10	.. 6 1
" East India	5 10	.. 6 1	5 10	.. 6 1
" Japan	2 9	.. 2 1	2 9	.. 2 1
WOOD, DYE, Bar..... per ton	3/12/6	.. 0 0	3/12/6	.. 0 0
" Brazil	0 0	.. 0 0	0 0	.. 0 0
" Cam	18 0	.. 28 0	18 0	.. 28 0
" Fustic, Cuba	0 0	.. 0 0	0 0	.. 0 0
" Jamaica	5 10	.. 5 10	5 10	.. 5 10
" Logwood, Campeachy ..	7 0	.. 8 0	7 0	.. 8 0
" Jamaica	4 7/8	.. 5 11	4 7/8	.. 5 11
" Lima, first pile	10 5	.. 11 0	10 5	.. 11 0
RED SANDARS	7/12/6	.. 0 0	7/12/6	.. 0 0

Correspondence

THE SALE OF POISONS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

As I have asked for opinions with respect to the sale of poisons, I send the following as the result of my experience. I consider that the Pharmacy Act relating to the sale of poisons has been productive of much good, and the list of poisons enumerated in Part II. should be extended to include all drugs and preparations of a dangerous nature. I am of opinion that medical men should not be allowed to dispense poisons. Any medicine containing a scheduled poison should be dispensed by a qualified and disinterested party. There is no check whatever on the medical men who dispense their own medicines, and circumstances have occurred in my experience warrant me in saying that it would be the best of the public if medical men were (as they are in France) prohibited from mixing their own medicines.

Many cases have occurred through the promiscuous use of poisons: I would, therefore, advocate the abolition of the Pharmacy Act thereby bringing all patent medicines containing poisons under the list of poisons in the Pharmacy Act.

Yours very truly,
Lancaster, Manchester,
April, 1882.

I am, yours very truly,

THOMAS C. E. OSBORNE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

In reference to the sale of poisons, may I be allowed to state my opinion. I should strongly deprecate any further interference or restrictions on the sale of poisons. It is already the highest interest, as it is the duty of the chemist to regulate strictly the sale of poisons.

The established members of the trade should be trusted, and their interest in every way to prevent and avoid all cases of poisoning, and to constantly use the utmost care and diligence in the sale of poisons.

With 30 years' experience in the drug trade, and have always found myself ready to meet all the requirements of the law, and amenable to the control of their chemist.

I also suggest that the exemption should still be allowed on all patent proprietary medicines containing poisons or poisonous substances, so long as the directions give fully the maximum doses.

Many have distributed a great number of patent medicines, and I can speak to the general good and benefits conferred by frequent and repeated purchases of the same.

I have remembered that the few medicines of merit only come to the notice of many die a natural death. I would therefore respectfully request the Government to encourage and allow the sale of all medicines on a progressive and free-trade principle.

I beg to remain, sir, yours truly,

Lincoln April 25.

J. W. MOODY.

JAPANESE MENTHOL.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Your Report, page 181, of your issue of April 15, you say these menthol crystals are now on the market at 11s. per lb. We inform you that we have had for a few weeks now a shipment of menthol crystals, which are offering at 9s. per lb.

His weight take the liberty to point out that four tins of menthol were offered at the auction sales by brokers, and were bought at 9s. to 9s. 6d. per lb.: see *Public Ledger Drug Report* of April 6.

In the interest of the trade, that you will kindly mention the above in your next issue.

We remain, sir, yours truly,

THOMAS CHRISTY & Co.

The Report was quite correct in this matter. We stated that a special brand.—Ed. C. & D.]

Analysis.—Sheffield correspondent, who does not identify himself, writes the following curious observation:—"I have not seen it does not freeze or become solid if kept in a green glass bottle, as it does when kept in flint-glass bottles. I have several occasions, and found that if samples of the same oil are placed in green and flint glass bottles, the one is frequently solid and the other fluid and ready for use."

THE CURRICULUM.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

The compulsory curriculum is experiencing a good deal of criticism, and I have seen nothing noticed from my own point of view I send you the following remarks.

It is a great mistake; and, to begin at the beginning, the preliminary examination should be passed at the end of, or prior to, apprenticeship. That being over, I consider that the facilities for study within the reach of his

apprentice, and assist him in every reasonable way. If the apprentice is wise enough to grasp his opportunities the end of his apprenticeship should see also the end of the preparation for the Minor examination. Of course all apprentices will not apply themselves, but I fail to see why those that will work should "pay the piper" on account of those who will not—for this would be the result of the proposed rule.

I am old enough to remember the time when examination was not compulsory, and recollect what a small minority of young men—I am here speaking simply of my own experience—employed their evenings in reading up. I remember, too, the change that took place when the examination-day was a future certainty to all—how young men thought advisable to make some preparation for it, and how masters were pleased to see their young men developing into students, and becoming, in some measure, able to substitute some knowledge of principles for the old "rule of thumb." Having these recollections, and contrasting the present with the past, I have congratulated myself on the improvement in the present.

Now, if we desire a return to the old working of things, all we require is the adoption of the compulsory curriculum. Were I on the Council—which, thank goodness! I am not—I should feel it my duty to oppose this new scheme by every fair means in my power. It shuts up the books of the assistant, and sends the apprentice to sleep over his. The master suffers by the altered habits of his young men, and by the ignorance of all but those already examined. Should he keep an apprentice, he finds his functions as an educator assumed by a "recognised school." The promise he has made in signing the indentures, and his legitimate and worthy ambition of turning out a young man capable of passing the Minor, are gone.

For my own part, in choosing assistants, I prefer young men that have passed their examination direct from their situation, unaided by any school, recognised or otherwise; and when I recollect the keen delight I have experienced on assistants of my own passing in this manner, and how sound and permanent the knowledge gained in this way seemed to be, I feel that the proposed rule is altogether contrary to my principles, ideas, and experience.

It is impossible here to discuss "all sorts and conditions of men." There are those who would stick to their books under any circumstances whatsoever, and there are those to whom even six years in a recognised school would not suffice. My remarks relate to the average assistant or apprentice, at a period in which enjoyment of life is keen, but to whose powers alike moral and mental home study is salutary, but at the same time somewhat distasteful and needing incentive.

I am reluctant to believe the examiners incapable of judging the extent and accuracy of a candidate's knowledge. If necessary, extend the ordeal and multiply the inquisitors, but do not create a barrier that is really such only to the poorer, but not the less worthy, of our community.

THOMAS P. DEDWICK.

Mr. O. V. Morgan, who has lately been travelling in Japan, sends us the subjoined card of a native druggist whose acquaintance he made at Tokio

IWASHIYA ICHIZAEMON.

CHEMICAL & SURGICAL INSTRUMENTS

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店本屋館地番八十目丁三町本京東

門衛左市本松

Any enterprising firms who may wish to open up relations with Mr. Ichizaeon are advised to write in Japanese, as he does not understand any English.

6/17. "A Country Subscriber" does not give his name, and we do not usually reply to anonymous queries. We should say, however his preparation is undoubtedly liable to stamp duty.

LONDON EXPERIENCE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST"

"Another Country Assistant who has had London Experience" (454) is very angry at the "weak and rapid twaddle" which we published last month over the signature of "Rusticus." He knows for a certainty that many of the leading firms, as well in the City as in the West-end, do not insist upon London experience as a *sine qua non* of entrance to their establishments. And he further insists that it is absurd to suppose that to dress like a la-di-da enhances one's prospects of success. All that is needful is that one should present a neat and genteel appearance, and this is as

necessary in the provinces as in London. He cannot help thinking that "Rusticus" must have been somewhat wanting in this respect till his nstitute lady adviser gave him a few hints.

4/45. *Disgust* (Nottingham) sends us an advertisement cut from a local paper, headed "Dispensing Extraordinary." The advertisers

Beg to inform the public that they Accurately and Carefully Dispense Prescriptions with Drugs and Chemicals of the finest quality, at the following prices for cash only:—

MIXTURES 1 ounce, 3d.	MIXTURES .. 8 ounces, 10d.
" 2 " 4d.	" 12 " 1s.
" 4 " 6d.	" 16 " 1s. 4d.

And every additional 1 ounce 1d. extra.

LOTIONS 1d. per ounce	POWDERS 1s. per dozen
LINIMENTS .. 6d. "	PILLS, 1d. each, 4d. "
OINTMENTS.. 3d. "	DRAUGHTS, 3d. each.

N.B.—Every care and skill is taken in their manipulation; every prescription dispensed by the principals. No apprentices kept at this establishment.

"Disgust" is not surprised that the trade should suffer while we have members of the trade themselves conducting business in such unprofessional ways.

3/46. "German Yeast" has been told that German yeast is liable to produce abscesses, and would like to know where he can find information upon the subject. We have been unable to find any authority for the belief that true German yeast (*Unterhefe*) is in any way prejudicial to health. The extent to which it is now employed, we think, is also against the supposition. "German Yeast" will probably find all the necessary information regarding it in *Ure's* "Dictionary" under the article "Beer."

2/61. Assistant.—Lime Cream—

Almond oil	Oz.
Olive oil	12
Lime water	10
Saccharated solution of limes	2

Add the oils gradually to the lime solutions in a Winchester quart, shaking vigorously, and perfume to fancy. For other formulae see this journal, February, 1881.

3/23. *Medicus*.—Formulae for imitations of *Sozodout* have been several times copied into these pages. We do not know how nearly they approach accuracy. *Wittstien* says, "Each vial contains nearly 2 oz. of a red liquid consisting of a filtered solution of white Castile soap, $\frac{1}{2}$ drachm, in strong alcohol, 1 oz.; water, $\frac{1}{2}$ oz.; glycerine, $\frac{1}{2}$ oz.; coloured with cochineal and flavoured with oils of peppermint, cloves, and winter green." The powder which accompanies each bottle consists of a mixture of precipitated chalk, powdered orris, and magnesia carbonate. *Floriline*, we believe, is based on quillaia. The following is a formula for a quillaia tooth-wash which perhaps more or less resembles it. Macerate 4 oz. of crushed soap-bark in a mixture of 3 oz. of glycerine with 2 pints of rectified spirit for several days. Filter through magnesia which has been previously triturated with 20 drops of each oil of winter green and oil of peppermint.

Sunday Closing.—*Mr. J. Munday* (Cardiff) sends us reports of a discussion in the Town Council of Cardiff last month, which resulted in a resolution that notices should be served by the head constable on certain tradesmen threatening them with legal proceedings unless they closed their shops on Sundays. One Councillor asked whether druggists' shops were included in this resolution, but no definite answer was given to this inquiry. It appeared from a report made by the head constable, in accordance with instructions, that 192 shops were open in Cardiff on the Sunday. Neither chemists nor publicans were reckoned in this estimate. There were 57 sweet shops, 35 greengrocers, 20 tobacconists, 18 refreshment houses, 13 hairdressers, 9 grocers, 7 butchers, and various others.

The Act under which any proceedings may be taken in respect to Sunday trading is one passed in the 29th year of the reign of Charles II. It provides that "no tradesman, artificer, workman, labourer, or other person whatsoever shall do or exercise any worldly labour, business, or work of their ordinary callings upon the Lord's Day, or any part thereof (works of necessity and charity only excepted); and that every person being of the age of 14 years or upwards offending in the premises shall for every such offence forfeit the sum of five shillings." The Act is not to extend to the dressing of meat in families, nor to the dressing and selling of meat in inns, cook-shops, or victualling-houses, for such as otherwise cannot be provided, nor to the selling of milk before 9 A.M. or after 4 P.M. But it no doubt prohibits *Mr. Tennyson* from writing a poem on the Sunday, and might be construed to render the Archbishop of Canterbury liable to a 5s. penalty for preaching a sermon on that day. The sale of medicine by chemists would probably be regarded as a work of necessity or charity, and would therefore be exempt; but chemists do sometimes sell articles on a Sunday which could not be so considered. It would seem that the person actually making the sale, and not necessarily the proprietor who keeps his shop open, is liable to the penalty.

4/11. *A Pharmacist* (Belfast).—The Dentists Act applies to the whole of the United Kingdom.

Mr. A. von Waldheim, of Vienna, the President of the Pharmacopoeia Commission, is good enough to say in his letter, of April 12, 1882, that he finds the Synopsis of the Pharmacopoeia of Chemists' and Druggists' Diary for 1882 of the greatest interest to him; he is now working on the "Universal Pharmacopoeia."

CURIOSITIES.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—As a proof that the superstition of past ages still lingers among us in spite of the influence of popular education, scientific progress, and modern enlightenment, we hand you, for the entertainment of your readers, an anonymous letter received a few days ago. It states that the day prior to its receipt, an elderly female called on me and was supplied with a parcel of "Ashes of Perfume." There was an evident reluctance to answer any questions as to the purpose for which the perfume was required. The letter received the following day, however, explained the matter.

May 3rd/82.—Sir—I thought I would just like to let you know in writing what ashes of perfume is for to see if you can really find it out what can be before I come I don't know what it is I have read it in the Bible in the book of Tobit chapter 8 its in the Apocrypha Tobias took ashes of perfume and the heart and liver of a fish and put them thereon and his wife spoke to him and when the evil spirit had smelled it it fled away and the cure witch craft an acquaintance of mine thinks she is well cured of her fever greatly either more or less for the 10 years so I thought I would like to try this remedy if you can make it out what ashes of perfume is for.

The old lady was not to be laughed out of her purpose but was determined to take away with her the "nearest thing."

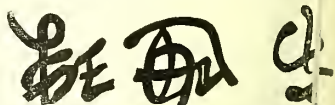
A little incense was therefore supplied. It has not yet inspired any supernatural results followed the treatment.

We are, yours faithfully,
M. ROBERTSON & S.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Perhaps the enclosed clipping from a *Texas* paper may be of some use to your many correspondents who have lately been asking you for formulae for starch gloss. The Chinamen are remarkable for the style in which they turn out shirts, collars, and cuffs, and your readers would be quite welcome to the information as to how it is done.

The reporter of the *Texas* paper says he interviewed Chinamen for the purpose of learning his secret, and so that there might be no mistake he has written down the particulars. You first wash the shirt and then put some



on it. That is what the Chinaman called it, but it is known as starch. Then iron the shirt.

"Museum Subscriber," Newcastle-on-Tyne, sends us a specimen of his daily experience, among which appear:—

"Accayuaforitis, spirits of bigmia and spirits of sol which, all in a peace please, 2 penny royals, oxide of ink, m. s. shop, coccois indigus for fuddlin, shugger o' lead, cokor n. m. l. b. s. ope, centenary magnesia, saddlers pouther, settlers b. d. r. yella hoker, oil o' rectum, tinkor o' mar."

5/33. *A. E. L.* wishes to know what colours paint generally graining.

"H. H."—We have never seen either borax or washing soda recommended for cleaning sponges. If the choice is confined to the soda, we should choose the borax, because it is almost as efficacious as a detergent, and less than the soda to damage the texture. A number of sponges were given in our last volume, pages 176, 198, and 557.

Barium sulphide is recommended as a depilatory by *Dr. W. H. Knowl*; but see *Dr. Cairns Wick's* note on this subject in *THE CHEMIST AND DRUGGIST*, 1879, page 345, and the *Diary* for 1881, page 400. We have information for or against the advertisement you refer to.

5/15. *North Star*.—**Egg Powder.**—By this is generally understood a baking power tinted with turmeric or some other hard yellow dye. The following formula was published in this journal in *March*, page 135:—Tartaric acid, $\frac{1}{2}$ lb.; sodium bicarbonate, 1 lb.; British arrowroot, of each $\frac{1}{2}$ lb.; turmeric, 1 drachm; dry egg and mix.

3/27. **Map Varnish.**—The following, recommended by *Dr. W. H. Knowl*, who is an excellent authority, was published in this journal in *March*, page 135:—Saturated solution of borax, 2 parts; powdered shellac, 1 part; together but apply no heat. The borax solution must be really saturated with the shellac in powder as fine as possible, and time must be given for the solution. If bleached shellac is used it must be fresh prepared.

Sale of Patent Medicines in Small Quantities.—The Chemists' Trade Association, Birmingham, has kindly forwarded us a copy of correspondence on this subject. We have the Inland Revenue Department asking "if holders of patents for medicines may legally break open stamped packets of 'as Steadman's powders, Cocker's pills, &c., and retail portions unstamped;" to which the Secretary of the Board replied "a packet of medicine which had been sold by the original vendor, and stamped may be broken open by a retail dealer, and smaller quantities without any further liability being incurred. It would, however, rest, in the event of laid against him for selling unstamped a medicine which the article sold by him had been taken from a stamped from the original vendor."

In August, 1879, we published similar information to the effect that the time the solicitor to the Inland Revenue Department had applied in a paper, as, "if the resale should be made in any form, or other enclosure, such enclosure would be liable to the charge of stamp-duty imposed by the Act 44 Ge


ZINCI OXYD. PUR.
(HARRIS'S),
GUARANTEED TO ANSWER ALL THE B.P. TESTS,
1 lb., 2 lb., 4 lb., 7 lb., 14 lb. and 28 lb. Boxes. Boxes Free.
1/- per lb.

SPECIAL QUOTATIONS TO LARGE BUYERS.
PLEASE NOTE—EVERY PACKAGE HAS OUR LABEL AND SEAL UPON IT.
KEPT IN STOCK BY THE FOLLOWING WHOLESALE DRUGGISTS:—
Leach & Webb, London. | Evans, Sons & Co., Liverpool. | Duncan, Flockhart & Co., Edinburgh. | Whitehead, Holbrook & Co., Manchester.
" | Boileau & Boyd, Dublin. | Bastin, Alfred, Manchester. | Woolley, Sons & Co., "

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MANUFACTURING WHOLESALE & EXPORT CHEMISTS, BIRMINGHAM.

ELEGANT! GOOD! SALEABLE!

TRADE PRICE:
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GALVANIC CHAIN-BANDS, BELTS, AND BATTERIES
(RECENTLY IMPROVED)

Approved by the Academy of Medicine of Paris, and other Medical Authorities in England and Abroad.
It is well known, depends upon the normal functions of the electric fluid governing the whole economy; any derangement of the system manifests itself, according to the locality, by various symptoms, such as

- | | |
|--------------|----------------------|
| Asthma | Local Debility |
| Bronchitis | General Debility |
| Paralysis | Female Complaints |
| Epilepsy | Mental and |
| Rheumatism | Physical Weakness |
| Gout | Functional Disorders |
| Constipation | &c., &c. |

There is no doubt, but an established scientific fact, and it must be admitted, that PULVERMACHER'S GALVANIC CHAIN-BANDS, by their electrical deficiency, constitute Nature's most congenial remedies referred to, embodying a host of remedies in one.

Successful experience has proved the marvellous remedial powers of these appliances, even in cases defying ordinary treatment.

- PRICE**
- GALVANO-PILINE CHAIN-BANDS.**
BROW CHAIN-BANDS for Sciatica, Rheumatism, Neuralgia, and other Painful Affections, Chronic Rheumatism, Local Paralysis, and Cramp in the limbs, according to Electric Power.
5s., 10s. 6d., 15s., 18s., 22s., and 40s.
HEAD CHAIN-BANDS or BELTS for Lumbago, Indigestion, Liver, Stomach, and Menstrual Complaints, &c., wearable as a Belt.
22s., 30s., 40s., and 50s.
HEAD CHAIN-BANDS for Nervous Deafness, Head, Tooth, and Ear Aches, &c., Noises in the Head 21s. and upwards.
HEAD CHAIN-BANDS for Loss of Voice and other Affections of the Throat, and other Local Complaints 10s. 6d., 18s., 22s., and 40s.
HEAD CHAIN-BANDS for Writers' Cramp, Trembling, Nervousness, &c., &c. 22s. and 40s.

Simple and Comfortable Application, free from possible counter-irritation, any of the above Band can be Felted, if required, at an extra cost of from 1s. upwards.

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most Liberal Reduction allowed to the Medical Profession, Chemists and Druggists, and Hospitals.

THE CONTINUOUS VOLTA-ELECTRIC CURRENTS, rendered most conveniently self-applicable by recent improvements of these Chain-Bands, although applied externally, penetrate to the innermost organs, promoting digestion, circulation, and nutrition, and perform their recuperative and restorative work in a silent, natural way, devoid of the costliness, uncertainty and inconvenience of ordinary treatment, or of any unpleasant sensation or shocks, counter-irritation, &c.

Even a Five Shilling Band of the minimum electric power evinces its genuineness by deflecting a telegraphic needle at many miles' distance, whilst those of superior price and power produce all the physical, chemical, and physiological phenomena possessing the famous curative powers of the voltaic battery, enhanced by their great portability.

Mr. PULVERMACHER refrains from advancing statements of his own in favour of his Medico Galvanic Appliances, but confines himself mainly to quotations from the opinions of competent medical and scientific authorities, including Sir C. LOCOCK, Bart., M.D., F.R.C.S.; Sir HENRY HOLLAND, Bart., M.D., F.R.C.S., and F.R.S.; Sir J. R. MARTIN, Bart., C.B., F.R.C.S., F.S.A., and F.R.S.; Sir W. FERGUSON, Bart., M.D., F.R.S., F.R.C.S., &c., reproduced in Pamphlet, post free.

- LIST.**
- F. COMBINED BANDS for General Debility, Central Paralysis, Epilepsy and Functional Disorders.** 40s., 50s., and 60s.
COMPLETE SET, WITH BELT AND VOLTA-ELECTRIC BATTERY.
£5, £8, and £10 10s

- CHAIN BATTERIES.**
- G. CHAIN BATTERIES for Extreme Nervous Debility, Paralysis, and for Restoring Exhausted Vital Energy (to be used in conjunction with specially combined Bands)** £3 10s. to 5 guineas.
H. INTENSITY BATTERIES for Treatment by Electric Baths in the Patient's own Bedroom in various cases, for Paralysis, Want of Power, &c., and for eliminating poisonous substances from the system (lead and mercury), 120 elements £6 6s.

TO CHEMISTS AND DRUGGISTS.

ÆSCULAP

THE PALATABLE APERIENT WATER.

DIRECT FROM THE CELEBRATED SPRING IN HUNGARY.

Comparative Analyses of Aperient Mineral Waters by Professor TICHBORNE, F.C.S., LL.D., President of the Pharmaceutical Society of Ireland, &c.

	Æsculap.	Friedrichshall.	Hunyadi János
Sulphate Magnesium	1750.3	641.38	1563.0
„ Sodium	1340.7	715.35	1579.7
Ammonia (free)	0.3	.....	trace
Sulphate Potassium	3.5	25.18	73
„ Calcium	185.6	171.30	..
Chloride of Sodium	301.3	997.22	1061
Bicarbonate „	140.3	.....	512
Carbonate Calcium	1.9	} 21.02	601
„ Magnesium	12.0		..
„ Iron	3.5		09
Alumina	5.6	.....	00
Nitrates (minute trace) .....	.....	.....	..
Silica	1.6	4.40	00
Bromide Magnesium .....	.....	2.75	..
Chloride „ .....	.....	501.14	..
Carbonate Strontium .....	.....	.....	0
Total	3746.6	3079.74	3370.6

While "Æsculap" is as rich in Salts of Sodium and Magnesium as any known Mineral Water, it contains more Antacids and less Potassium Salts. It therefore combines all the purgative properties with greater alkalinity and less of the debilitating action of other aperients. Moreover, it is the most palatable of any of its class.

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ADELAIDE;
And PORT ADELAIDE

ESTABLISHED 1855.

INDEX TO ADVERTISEMENTS

See Pages 21 and 22.

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MELBOURNE.



1880.



TRADE MARK.

ADELAIDE.



1881.

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Free from smell, agreeably acid and contains the prescribed quantity of iron phosphate in an
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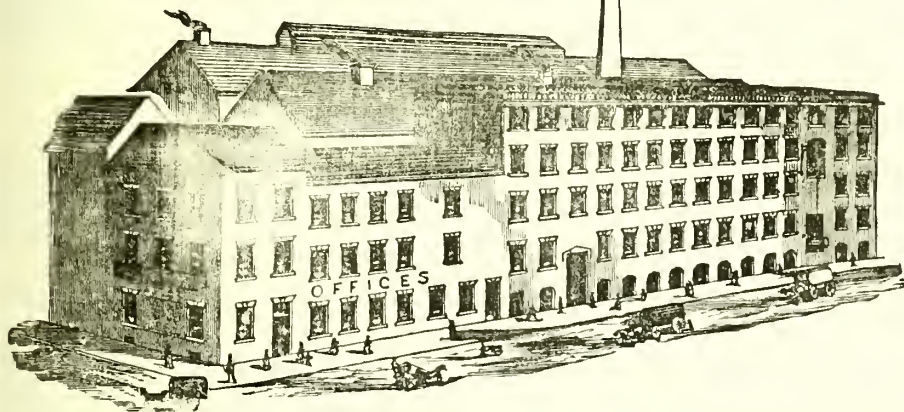
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ANNIC	Lightest crystals	Dissolves almost colourless in water, alcohol, and ether.
"	Powder and granulated	Dissolves freely in water, alcohol, and ether.
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As suggested by Dr. W. Watson Cheyne. *See British Medical Journal, July 24, 1880.*

SUPPOSITORIES AND PESSARIES,

Made with non-greasy bases. **PREPARED BY**

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Wholesale Agents—**MAW, SON & THOMPSON, London.**

PURE REFINED CACAO BUTTER

In $\frac{1}{2}$ -lb. and 1-lb. Cakes. Wholesale and for Export. Special Quotations to Large Buyers.

BRADY & MARTIN, NEWCASTLE-ON-TYNE.

J. ROBBINS & CO. **METHYLENE** (BICHLORIDE).
 Discovered to be a general Anæsthetic by Dr. RICHARDSON in 1867.
 1-lb. Bottles, 16s.; 4-oz., 8s. 6d.; 4-oz., 4s. 6d.; 2-oz., 2s. 6d.
COMPOUND ANÆSTHETIC ETHER,
 For producing Local Anæsthesia.
 In 4-oz., 10-oz., and 20-oz. Stopped Bottles 2s., 4s., and 7s.
OZONIC ETHER.
 4-oz. and 16-oz. Stopped Bottles. 3s. 6d. and 12s.
PEROXIDE OF HYDROGEN.
 First introduced as a Medicine by Dr. RICHARDSON.
ETHYLATE OF SODIUM
 (Dr. RICHARDSON'S Formula), for removing Nævi, &c. In 4-oz. and 1-oz. Bottles, with elongated Stoppers for applying the Caustic, 2s. 6d. and 1s.
STYPTIC COLLOID,
 For promoting the Healing of Wounds by the first intention.
 In 2-oz. and 4-oz. Bottles, with brush. 2s. 6d. and 1s. 6d.; 16-oz., 12s.
CHARCOAL CAPSULES,
 Containing pure Vegetable Ivory Charcoal. In Boxes 2s. 6d. each.

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DINNEFORD'S FLUID MAGNESIA



PERFECT IN PURITY AND UNIFORM STRENGTH.

Sold by all Wholesale Druggists, and by the Manufacturers.

DINNEFORD & CO.,
Pharmaceutical Chemists
 81, NEW BOND STREET, LONDON.

Dr. J. COLLIS BROWNE'S CHLORODYNE.

THE ORIGINAL AND ONLY GENUINE.

IMPORTANT CAUTIONS

by Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that Dr. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as true as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.

THE VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

THE LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

THE LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th 1866, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never knew any other that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant had published the testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne used was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published as the Defendant's testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the Inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation which assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now competent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the wrapper, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts to mislead have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

From SYMES & Co., Pharmaceutical Chemists, Medical Hall, Simla,
January 5, 1880.

To J. T. DAVENPORT, Esq., 33 Great Russell Street, Bloomsbury, London.

DEAR SIR,—Have the goodness to furnish us with your best quotations for Dr. J. Collis Browne's Chlorodyne, as, being large buyers, we would much prefer doing business with you direct than through the wholesale houses. We embrace this opportunity of congratulating you upon the wide-spread reputation this justly-esteemed medicine has earned for itself, not only in Hindostan, but all over the East. As a remedy of general utility, we much question whether a better is imported into the country, and we shall be glad to hear of its finding a place in every Anglo-Indian home. The other brands, we are happy to say, are now relegated to the native bazaars, and, judging from their sale, we fancy their sojourn there will be but a brief one.

We could multiply instances *ad infinitum* of the extraordinary efficacy of Dr. Collis Browne's Chlorodyne, in Diarrhoea and Dysentery, Spasms, Cramps, Neuralgia, the Vomiting of Pregnancy, and as a general sedative, that have occurred under our personal observation during many years. In Choleraic Diarrhoea, and even in the more terrible forms of Cholera itself, we have witnessed its surprisingly controlling power. We have never used any other form of this medicine than Collis Browne's, from a firm conviction that it is decidedly the best, and also from a sense of duty we owe to the profession and the public, as we are of opinion that the substitution of any other than Collis Browne's is a deliberate breach of faith on the part of the chemist to prescriber and patient alike.

We are, Sir, faithfully yours,

SYMES & Co.,
Members of the Pharm. Society of Great Britain,
His Excellency the Viceroy's Chemists.

Sold in bottles—1s. 1½d., 2s. 9d., 4s. 6d., and 11s. Usual Discount to the Profession.

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HOW TO SING AND SPEAK WITH PERFECT EASE VOCALINE. TONIC DROPS

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MARK.
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For Hoarseness, Voice, Throat, and Chest Affections, Coughs, Colds, Asthma, &c. In Bottles at 1s. 1½d. and 2s. 9d.

For Indigestion, Headache, Heartburn, Stomach, Diseases arising from the Stomach and Liver.

In Bottles at 1s. 1½d. and 2s. 9d.

Manufactured only by R. BUXTON, Consulting Chemist, Cavendish St., BARROW-IN-FURNESS.

HENRY'S CALCINED MAGNESIA

Continues to be prepared with scrupulous care in the greatest chemical purity, by

Messrs. THOMAS & WILLIAM HENRY, 11 East Street, St. Peter's, Lancashire.

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ROYAL LETTERS
PATENT.

DR. HANKS'S



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Price 1s. 9d., 2s. 3d., and 3s. 6d. per Bottle.

Sold by Dr. H. HANKS, 146 Mile End Road, London, E. Wholesale Agents—Newbery & Sons; Millard & Sons; Sanger & Sons; Edwards & Son; J. Thompson, Sutton, Barclay & Sons; Lynch & Co.; Hovenden & Sons; and the principal Wholesale Chemists in the Colonies. Export Agents—Evans, Lescher & Webb; Burgoyne, Burbidge & Co.; and Export Agency, 65a Ludlow Street, London, and 52 Castle Street, Liverpool; Baiss, Brothers & Co.

Which is no Quack Imposture, but a genuine, true, and useful medicine, and the quickest and most effectual cure for Neuralgia, Tic-Douleur, Neuralgia, Spasmodic Neuralgia, Hysterical Neuralgia, Earache, Brow Ache, Faceache, Sciatica, Nervous Disorders, Nervousness, Nervous Headache, Nerve Irritability, Nervous Trembling, Nervous Debility, and Nerve Pains, after long great success for sixteen years in his private practice, is now before the public. It relieved these diseases when specifics (?) vaunted as cures have been unsuccessful. Teeth have been previously extracted, and that without the least benefit. It relieves pain and spasms, strengthens and calms the nervous system, rests sleep, the brain when disturbed by anxiety, worry, and overwork. To raise the spirits, to cheerfulness, to steady the muscles and limbs, in persons weak, depressed and tremulous, excessive drinking, it surpasses all other medicines. Being a Stomachic, medicine, a remedy for Indigestion, and its attending evils.

As a medicine for exportation DR. HANKS'S NEURALGIA and NERVE MIXTURE has attracted the attention of Merchants, Shippers, Captains, and Passengers, above all other Naval and Military Officers, Residents in the Colonies, and Emigrants, wherever they will often find it a source of relief. This celebrated Mixture is pleasant in taste, and agreeable; its action local and internal; and as it will keep any length of time without losing its efficacy, all sufferers should have it ready for use to arrest these severe diseases at their onset.

London, July 1st 1880

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We guarantee the sale of Hop Bitters, and authorize you to do the same to our Customers. If at any time you are dissatisfied with them, please return them to us, and we will remit you amount paid for same.

HOP BITTERS.

TO CHEMISTS AND DRUGGISTS, CONFECTIONERS, ELECTRICIANS, DENTISTS, &c.

J. THOMAS DODDEMEADE, Wax Melter.

DEALER IN ALL KINDS OF WAXES,

SPERMACEIN, PARAFFIN, EARTH WAXES (WHITE & RED), MYRTLE, CORNUBA, STARINE.

PRICES AND SAMPLES ON APPLICATION.

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WRANGHAM'S

LIGHT

PREPARED CRUSHED LINSEED,

Which is now used instead of the old so-called Linseed Meal. Made from a "Specially prepared Linseed." Contains all the Oil.

Importer of GENUINE FRENCH BEESWAX, Small Blocks, 2 ounces and upwards.

WRANGHAM'S GENUINE COLZA OIL.

RICHARD H. WRANGHAM

(SUCCESSOR TO FOSTER & WRANGHAM),

OIL BOILER AND REFINER, SEED CRUSHER, PAINT & COLOUR MANUFACTURER, LIME STREET GROVES, HULL.

PETROLEUM IMPORTER Established over a Century.

HOLLOWAY'S
PILLS AND OINTMENT

Have the Largest Sale of any Medicine

MANUFACTURED ONLY AT

Professor HOLLOWAY'S ES

538 OXFORD STREET, LONDON.

And sold at 1s 1½d., 2s. 9d., 4s. 6d., 11s., 22s., and 44s. each Box.

Chemists and Druggists selling "Holloway's Pills" application to the above address, or to the Wholesale House with which they deal, be supplied free of charge with Handbills containing name and address printed at foot.

For Wholesale Terms see List of "Proprietary Articles" most Price

INDEX TO ADVERTISEMENTS

SEE PAGES 21, 2

FREEMAN'S CHLORODYNE



THE ORIGINAL AND ONLY TRUE.

Discovered and Invented by RICHARD FREEMAN in 1844.

It is one of those preparations so well known as having something in its composition which defies the imitator, and makes an infallible remedy. No other remedy known can be exhibited with so much confidence as a SEDATIVE, an ANTI-SPASMODIC, an ASTRINGENT, an ANODYNE, or DIAPHORETIC.

In its composition and effect it bears no resemblance to any of the many formulæ published, but has curative and chemical peculiarities of its own, nor is there any analytical test for it. It has been found by the Profession and large numbers of others to succeed after all imitations had failed, and maintains its unaltered position as the only reliable CHLORODYNE.

TESTIMONIALS.

HEAD-QUARTER STAFF, CABUL, May 31st, 1880.
It is with much pleasure that I am able to state that your Chlorodyne has been of special service to me in alleviating the wearisome spasms which is here existent in an aggravated form. Many of my patients now come and beg me to give them that medicine which always relieves. Yours faithfully,

CHARLES W. OWEN, L.R.C.P., Lon., M.R.C.S., Eng.
The Divisional Head Quarter Staff and Civil Surgeon, Cabul.

THE "TIMES," AUGUST 13th, 1877.

From our own Correspondent with the Russian Army.

OKOUM, July 25th, 1877.

of sanitary arrangements in the Russian camp was dreadful, and had we remained there a few weeks longer dysentery and typhoid fever would have been more havoc in our ranks than the bombs of the Turks. I myself acquired an unenviable reputation as a doctor, owing to my being able to succeed after all imitations had failed, and maintains its unaltered position as the only reliable CHLORODYNE, with which I effected miraculous cures.

IMPORTANT. CAUTION.—Four Chancery Suits terminated in favour of FREEMAN'S CHLORODYNE and against Collis Browne and Davenport. Lord Chancellor Selbourne, Lord Justice Mellish, Lord Justice Mellish condemned their proceedings, and decreed them to pay all costs. Reports of the "Times," January 12 and July 13, 1864, and April 29 and July 24, 1873, and "British Medical Journal," 1873, p. 3.

Bottles, 1s. 1½d.; 2 oz., 2s. 9d.; 4 oz., 4s. 6d.; 8 oz., 9s.; half pints, 11s.; and pints, 20s. each; and for dispensing only 8 oz. 8s., and fl. 20 oz. 18s. (in weight one pound and a half). A liberal discount allowed. Special quotations given for Hospitals, Workhouses, Infirmarys, and other Public Medical Institutions. Full directions in various languages.

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RICHARD FREEMAN, PHARMACIST, 70 KENNINGTON PARK ROAD, LONDON, S.E.

RELIEF FROM COUGH IN TEN MINUTES.

HAYMAN'S BALSAM OF HOREHOUND

Is the most certain and **SPEEDY REMEDY** for all **DISORDERS** of the **CHEST** and **LUNGS**. In Asthma and Consumption, Bronchitis, Coughs, Influenza, Difficulty of Breathing, Spitting Blood, Whooping Cough, Hoarseness, Loss of Voice, &c., this Balsam gives instantaneous relief, and, a properly persevered with, scarcely ever fails to effect a rapid cure. It has now been tried for many years, has an established reputation, and many thousands have been benefited by its use.

IT HAS A MOST PLEASANT TASTE.

IMPORTANT TESTIMONIAL.—"AMPORT FERS, ANDOVER, MAY 29, 1869.—Sir, I have for some years had your Balsam of Horehound for Mrs. B. Webster, and intended writing to tell you how much benefit she has derived. She was considered consumptive, but the Balsam has quite restored her, and she is now quite strong. I have recommended you dozens of customers, and all have been pleased with it.—I am, yours, &c., H. B. WEBSTER.

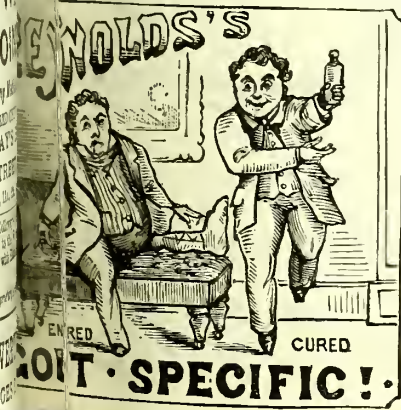
MR. HAYMAN, Chemist.

Mr. HORROX, Chemist, Mildenhall, writes to say:—"One of my customers says your Balsam is worth sixpence a drop."

Is invaluable, as children are fond of it and take it eagerly. Immediately it is taken coughing ceases, restlessness is and sleep ensues. No lady who has once tried it would ever afterwards be without it.

Prepared only by A. HAYMAN, Chemist, Neath; and sold by all Chemists. Price 1s. 1½d. and 2s. 9d. per Bottle.

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REYNOLDS'S GOUT SPECIFIC.

NO MORE GOUT!

NO MORE RHEUMATISM!!

THIS FAMOUS MEDICINE for **GOUT** and **RHEUMATISM** has had a reputation of **OVER SIXTY YEARS**. It gives relief where every other remedy has failed. The most agonising pains are relieved in a few hours by a single dose, and a few repetitions restore the use of the limbs, and leave the sufferer in perfect health.

PRICE, RETAIL, 2s. 9d. and 4s. 6d. PER BOTTLE.

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CHEMISTS' AND DRUGGISTS' SHOP BOTTLES AND JARS WITH BURNT-IN LABELS.

Narrow-mouthed and Wide-mouthed Bottles, well Stoppered.

Capped and Tube-stoppered Oil Bottles.

Syrup Bottles, with Plug Stoppers of Dark Blue or White Opaque Glass.

Lozenge Jars with Cut Glass Knobs.

Cut Perfume Bottles, Round, Oval, and Square.

Shop Jars of Best Porcelain, thoroughly Grease Proof.

Labels Indestructible and of Elegant Appearance, forming an even surface with the Glass or Porcelain.

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Many Shops have now been fitted either entirely or partially with these Bottles, Jars, &c., and in every case their appearance recommends them; and with regard to their durability, the experience of many years in all parts of the Continent has sufficiently proved them to be superior to any other description of label.

TRUSSES

The World's Recognition of Merit.

LONDON-1881-ANNOUNCEMENT.

At the late INTERNATIONAL MEDICAL AND SANITARY EXHIBITION, the World's most competent Judges have recognised the unequalled excellence by granting the

ONLY "AWARD OF MERIT" for TRUSSES.

"To I. B. SEELEY, PHILADELPHIA, U.S."

(Over Sixty-Eight Competitors), confirming their high opinion with America's most distinguished Surgeons.

London Exhibition Judges.—Thomas Bryant, F.R.C.S., F.R.C.S., Thomas Smith, F.R.C.S., John Wood, F.R.S., F.R.C.S.

SEELEY'S HARD RUBBER TRUSSES

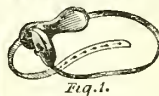


Fig. 1.



Fig. 5.



Fig. 9.

Fine Steel Springs, neatly covered with high polished Rubber. Made in every desirable pattern; with anatomically constructed. Light, cool, cleanly, durable; unequalled in finish, and practical construction. Unaffected by time, climate; used in bathing. Always Reliable. Prices reduced to meet the popular demands. Sold by all leading Druggists and Dealers in the Trade. To avoid Spurious Imitations, see Genuinely stamped ("Spring and Strop"), "I. B. Seeley—Warranted

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The Correct and Skilful Mechanical Treatment of HERNIA RUPTURE A SPECIALTY.

Under Patronage of our most Eminent Surgeons.

Reference.—Professors S. D. Gross, D. Hayes Agnew, Willard W. H. Pancoast, Dr. Thomas G. Morton, & others.

As success finds IMITATORS, ask for "SEELEY GENUINE"

"SEELEY'S HARD RUBBER TRUSSES," "IMMEDIATE RELIEF AND TREATMENT OF HEMORRHOIDS OF THE RECTUM."

Choice as ornament of Elastic Surgical Hosiery, Belts, Improved Surgical Bandages, Shoulder Braces, &c.

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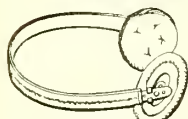


FIG. 1. Patent Single.

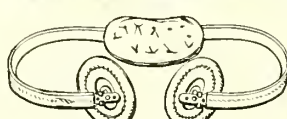


FIG. 2. Patent Double.

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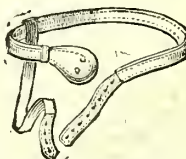


FIG. 3. Common Single.



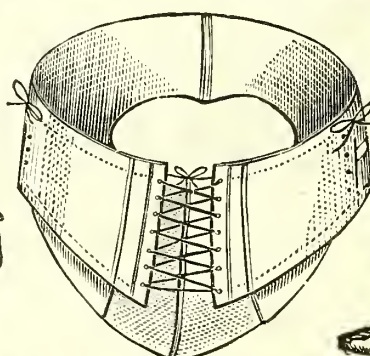
FIG. 4. Common Double.

N.B.—Customers are invited to order direct from S. O. & Co., or to advise their Agents to do so, as the GENUINE article cannot be obtained elsewhere and none are their make unless Stamped with Registered Trade Mark on Springs and Plates. Price List free on application.

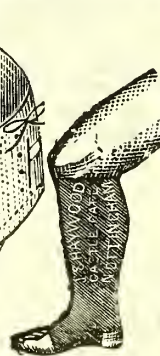
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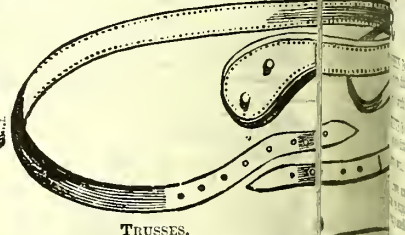
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PERFECTION BELT
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STOCKINGS.



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Greatest attention paid to Special Orders, which are invariably forwarded per return of post.

List of Prices and Directions for Measurement forwarded on application.

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PRIZE MEDALS, INTERNATIONAL EXHIBITIONS.



LONDON, 1862.



PARIS, 1875.



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PARIS, 1878.



SYDNEY, 1879.

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MANUFACTURERS OF

GLASS BOTTLES,

Of which the following are principal kinds:—

POWDER BOTTLES, for Powders, Pills, Acids, Citrate of Magnesia, and other products supplied by Chemical Manufacturers and Wholesale Druggists.

TO OIL, COD LIVER OIL, AND HAIR OIL BOTTLES of various shapes, plain and fancy, with or without stoppers.

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OPENING & OTHER BOTTLES, both green and white, for the use of Chemists, Surgeons, and Manufacturers of Bent Medicines, &c.

FRUIT BOTTLES, in different sizes and shapes, suitable for both the Wholesale and Retail Trade.

ERL WATER BOTTLES for all kinds of Aerated Drinks, of every shape and colour, suitable either for Corks, or for various Patent Stoppers now in use.

WINE AND SPIRIT BOTTLES, of various shapes and sizes, and in suitable colours. **ALE and PORTER** Bottles in the dark green colour now so much preferred, both for Corks and Barrett & Elers' Screw Stoppers.

PRESCRIPTION BOTTLES, with or without stoppers, comprising Drops, Barley Sugars, Jellies, Rock, Jam, and Amalade Jars.

KETCHUP, VINEGAR, and Wholesale Oilmen's Bottles in great variety, with or without Stoppers.

Special attention to our **GLASS MEASURES**. They are made of the very best quality of glass, and the accuracy of the graduations is verified. **PRICES** (including stamping in accordance with the new Act):—

verified PRICES (including stamping in accordance with the new Act):—														
2 dr.	1	2	3	4	6	8	10	12	16	20	24	32	40 oz.	
11/6	9/6	10/6	11/6	13/6	15/-	18/-	19/-	21/-	23/-	26/-	29/-	32/-	36/-	40/- per dozen.

DISCOUNT ACCORDING TO QUANTITY ORDERED.

We beg to solicit Orders for our New Feeders, at the following prices:—

OUR BABIES' BOTTLES."

GREEN BOTTLES, with boxwood top corks and white fittings, 36s. per gross.

Ditto, with brown or black fittings, 42s. per gross.

WHITE BOTTLES, with boxwood top corks and white fittings, 38s. per gross.

Ditto, with brown or black fittings, 44s. per gross.

Above are put one dozen in a wooden box, or can be supplied, each bottle in a cardboard box, neatly labelled, at 6s. per gross extra.

Spare Bottles—Green, 13s. per gross; White, 15s. per gross.

WHITE FLINT BOTTLES, with earthenware caps and white fittings, with tube and bottle brushes complete, each bottle in a cardboard box, 75s. per gross.

Ditto, with brown or black fittings, 81s. per gross.

Ditto, with white fittings, bottle of cement for attaching cork strips inside the cap, extra teat, and boxwood cork, 108s. per gross.

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The 1s. and 1s. 6d. Feeders are fitted with an arrangement in the rubber tubing for ascertaining the flow of milk, which will be found very useful to all who have charge of infants.

Terms and Discounts forwarded on receipt of application stating quantity required.
Large Buyers liberally treated with.

LONDON OFFICES AND WAREHOUSES:

3, GREAT NORTHERN GOODS STATION, KING'S CROSS.

WORKS:—THORNHILL LEES AND CONISBORO', YORKSHIRE.

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GREAT SAVING OF MONEY AND LABOUR. SOMETHING NEW ELEGANCE AND DURABILITY COMBIN
PATENT RECESS LABELLED SHOP ROUNDS. Parties about to Open New Establishments or Refit Old Establishments compare following Net Prices. These Prices include Glass Labels attached to Bottles ready for use.

		FLINT GLASS.		BLUE GLASS.				FLINT GLASS.		BLUE GLASS.	
Size.	Height.	N.M.	W.M.	N.M.	W.M.	Size.	Height.	N.M.	W.M.	N.M.	W.M.
16 ounce	8 inches	16/6	18/6	20/	22/ per dozen.	32 ounce	10 1/2 inches	20/	22/	25/6	26/ per dozen.
20 "	9 "	17/6	20/	21/	23/ "	42 "	11 "	22/	25/6	26/6	30/ "

Prices of other Shop Bottles, &c., on application. Sample Bottle sent on receipt of 1s. 7d. in stamps. Facsimile Sheet Labels, in various styles, sent on receipt of two stamps. Amongst others, the following parties have recently been supplied with these Bottles:—

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FOR DISPENSING, TOOTH PASTE, COLD CREAM, AND OTHER PURPOSES.

PRICES	Lip Salves		1/4 oz.		1/2 oz.		3/4 oz.		1 oz.		1 1/2 oz.		2 oz.		3 oz.		4 oz.	
	{		1/4	1/4	1/4	1/4	1/6	1/8	1/10	2/1	2/8	3/4	3/4	3/4	3/4	3/4	3/4	3/4

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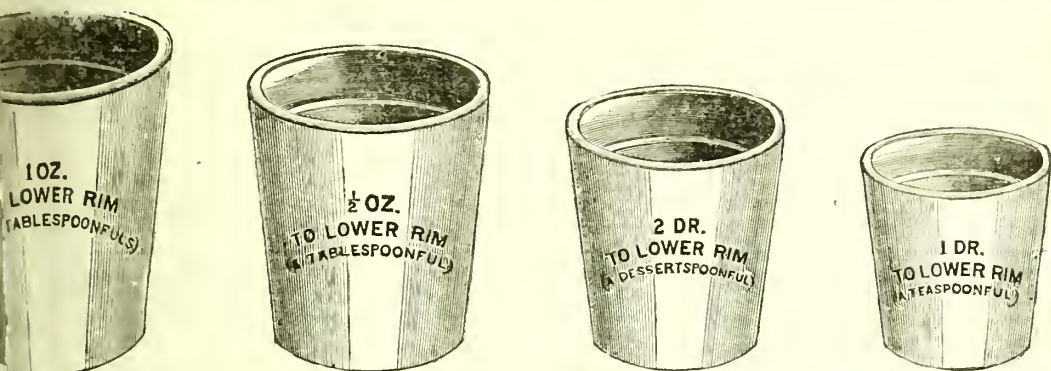
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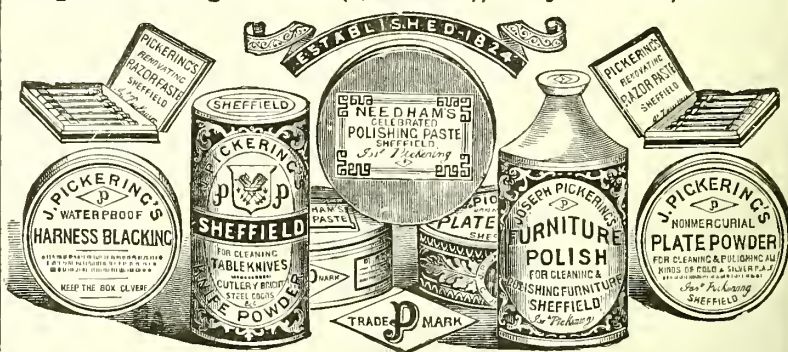
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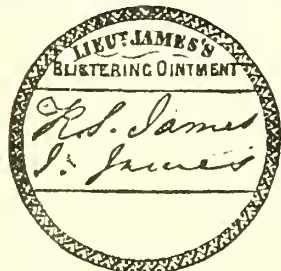
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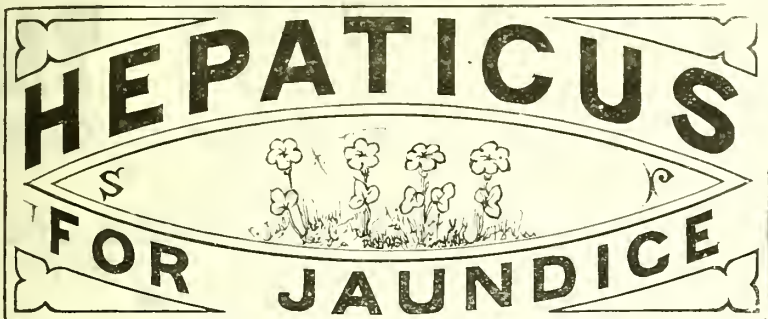
THE DEVONSHIRE COMPOUND.

This Preparation has not been equalled for its immediate effect in checking the fatal disease in Lambs, and is quite a DIFFERENT medicine, having lost fifteen Lambs before I used the compound. In Bottles, 2s. each.

TESTIMONIAL. Tedburrow, Hempton, 23rd Dec. 1861. "Dear Sir.—THE DEVONSHIRE COMPOUND you sent me I have used in six cases of Scour in Lambs, with complete success in each case; I therefore deem it my duty to inform you of the result. I have written you a letter in the margin, and I am, Sir, yours very truly, JOHN T. EDWARDS, Mr. R. Corner, Wellington."

THE WONDERFUL HEALTH RESTORER!

Biliousness.
Indigestion.
Weakness.
Stomach-Ache.
Loss of Appetite.



Nervous and
Dyspeptic
Affections.
General Debility
Spasms,

ND ALL COMPLAINTS ARISING FROM A DISORDERED LIVER!

It quickly cures the above disorders of however long standing, PURIFIES AND CLEANSSES THE BLOOD, and restores to the system a healthy tone. NO CHANGE OF DIET IS REQUIRED. Those with weak constitutions may take with entire confidence, it being adapted to all ages of either sex.

Sold in Bottles 2s. 9d. each.

In all countries this Medicine is invaluable, but more particularly so in the Tropics, India, and all Hot Climates, and we particularly call the attention of Shippers and our friends in the Colonies and Abroad to it.

For Terms apply to the Proprietors,—**TOMLINSON & HAYWARD, Lincoln, England.**

Trade Mark "Hepaticus for Jaundice" and an Hepaticus Plant as illustrated above.

THE "GLYCERINE DIP"

IS THE BEST FOR SHEEP AND LAMBS. NON-POISONOUS.

An Infallible PREVENTION and CURE of SCAB, Effectually Eradicates TICKS or FLEAS, RED LICE, INSECTS, and other PARASITES infesting the Skins of Sheep and other Quadrupeds; Destroys MAGGOTS, renders the Skin Healthy after attacks by the FLY; it Cures and Prevents FOOT and MOUTH DISEASE, FOOT-ROT, and other Contagious Diseases; Heals RAW WOUNDS, and is especially useful as a DRESSING for CUTS during and after the process of SHEARING; Greatly promotes the GROWTH of the WOOL, as also Increasing the Weight and Improving the Quality of the Fleece.

Can be used with Cold Water.

The "GLYCERINE DIP" is an excellent Wash for Horses (cures Harness Galls and Sore Backs), Cattle, and Dogs. Killing all Fleas and Curing all kinds of Skin Diseases and Sweetening the Skin.

GLYCERINE DIP



TRADE MARK.

None is Genuine unless bearing this
Trade Mark.

Sold in Tins of 5 lbs. and 10 lbs., and
Drums of 20, 30, 40, 50, and 100 lbs.

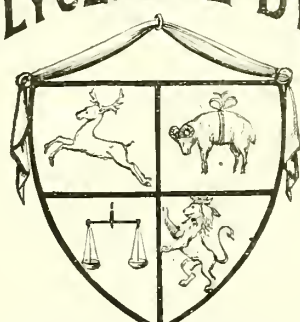
Price 6d. per lb.

1 lb. for every 5 Sheep or 6 Lambs.

BEWARE OF IMITATIONS & FALSIFICATIONS.

CAUTION.—We have the sole right and Proprietorship of this Title and Mark, and we shall at once commence actions against any person or persons imitating, or otherwise pirating them, and we beg to caution Merchants and Buyers against such imitations.

GLYCERINE DIP



TRADE MARK.

SOLE PROPRIETORS AND MANUFACTURERS,

TOMLINSON & HAYWARD, Lincoln, England.

TESTIMONIAL from NICHOLAS LOWE, Esq., ALTAMIRA, Mercedes, Buenos Ayres, October 22, 1880.

To Messrs. Moore & Tudor.—In reply to your letter of the 18th, I am thankful for your congratulations on the sale of my wool at \$14 per ar. I have sold another lot at \$140, and I attribute the success of placing wool worth these prices in market having rid the flocks of Scab. There are several remedies more or less efficacious and cheap. I use only the "Glycerine Dip" imposed by you, and I am well satisfied with the result it gives. I have no objection to your making the fact public. My neighbour, Mr. William Cleary, also uses the "Glycerine Dip," and he obtained a Silver Medal Prize, at the Paris Exhibition of 1878. Several others who use the same Dip are satisfied with it, and promise to continue patronising the "Glycerine Dip."

Applications for Agencies invited in those countries where we are not already represented.

RUGS, CHEMICALS, PHARMACEUTICAL PREPARATIONS.

GABRIEL & TROKE,

Wholesale and Export Druggists and Manufacturing Chemists,
82 CITY ROAD, LONDON.

**GABRIEL & TROKE'S
REGISTERED CAPSULED HORSE BALLS,**



Manufactured solely by **GABRIEL & TROKE,**
WHOLESALE DRUGGISTS, 82 CITY ROAD,
LONDON.

MANUFACTURERS OF ALL VETERINARY PREPARATIONS, EVERY KIND OF
VETERINARY INSTRUMENTS AND SUNDRIES.
SAMPLES AND SPECIAL QUOTATIONS FOR LARGE BUYERS.

Oils are prescribed. These Capsuled Balls are most convenient and safe and well adapted for export, keeping good in any climate. They are put up in Boxes of 1 dozen each. Capsuled Balls of the most approved formula on hand, and private recipes faithfully and accurately dispensed. Shipping orders promptly and carefully executed, and at lowest market prices. Price Lists of a very extensive character in the most handy referable style on application.

**COOPER'S
SHEEP DIPPING POWDER**

Is soluble in Cold Water, and should be used in preference to any other Dip,

**KILLS, FLY, SCAB, AND FOR ALL OTHER
SHEEP DIPPING PURPOSES.**

This Dip has been in use upwards of 35 years, and has been equalled by any other; it is of uniform strength, not so the wool, and is equally good as a Summer or Winter Dip. It is especially recommended for Dipping Lambs, as a certain Cure for Scab.

Packs to Retail at 1s. 4d. each, for 20 Sheep.
For Bills of Directions in English, Spanish, Dutch, &c., may be had free on application.

**COOPER'S
FLY POWDER**

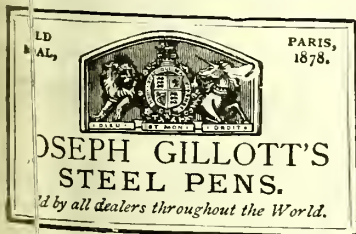
For Preventing the Fly Striking Sheep & Lambs,
Destroying the Maggot, &c.

1-lb. Packs to Retail at 6d., and 2½-lb. perforated Canisters to Retail at 1s. 4d.

Powder may also be had in Packets with a Label bearing Retailer's own Name and Address, provided one gross or more be taken at once.

Quantity loose at per cwt.—Samples on application.

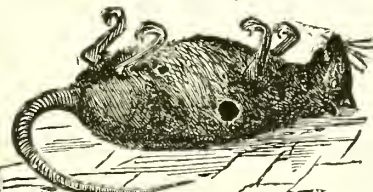
For other particulars may be had of the Proprietor,
WILLIAM COOPER, M.R.C.V.S., Chemical Works,
Berkhamsted, Herts.



**100 Rats destroyed for a Shilling by
BARBER'S PHOSPHOR PASTE.**

WRAPPED NEATLY FOR THE COUNTER.
Handsome attractive Posters supplied; if conspicuously placed will command constant sale.

Kills Rats, Beetles,
&c.
THE DEAD UP
DRY
WITHOUT SMELL.



Guaranteed the best
destroying Paste in
the world.

8d., 6d., 1s., 2s. 6d., and 5s. Tins. Also

BARBER'S VERMIN KILLER.
SOLD THROUGHOUT THE WORLD.

Kills Mice upon the spot. In packets, 3d., 6d., and 1s.
Be not deceived with worthless imitations. Observe the Name !!!
The VERMIN KILLER sent free by post at the following prices:
2d. 3d. 6d. 1s. 0d.
1s. 0d. 1s. 6d. 3s. 0d. 6s. 0d. .. Per Dozen.

The PHOSPHOR PASTE, at same prices. Carriage paid per rail for enclosure to any Wholesale House, or direct, for quantity of either Paste or Killer.

Special arrangements are made for Sole Agency with Chemists.
WORKS, SALISBURY: ESTABLISHED 1848.
Special Quotations to Shippers. Supplied by all the London Wholesale Houses.

ESTABLISHED 1873.

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(Successor to the Tyne Vale Chemical Company),

TYNE VALE CHEMICAL WORKS, FORTH BANKS, AND SKINNER BURN ROAD,
NEWCASTLE-UPON-TYNE,

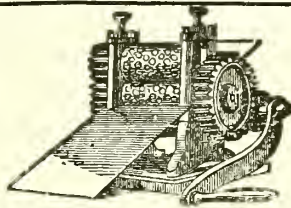
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ETHER { PURE, for Medicinal Purposes.
METH., for Ice Making, &c., &c.
METH., Treble Refined, for Photographic Collodion, &c.
Quotations on application.

ESTABLISHED



1835.



ESTABLISHED



1835.

THE ONLY PRIZE for Confectioners' Machines at the International Exhibition of 1862; Paris, 1867; Lima, Peru, 1872; London, 1873; and Philadelphia, 1876, was awarded to

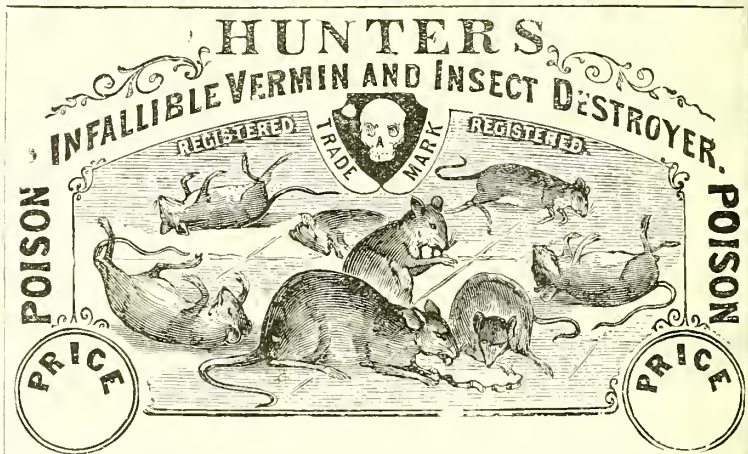
L. COLLIER,

WELLINGTON WORKS, River Street, ROCHDALE,
MANUFACTURER OF ALL KINDS OF
MACHINES FOR CONFECTIONERS AND BISCUIT BAKERS.
An Illustrated Catalogue sent free on application.

"HUNTER'S" INFALLIBLE VERMIN DESTROYER.

"The Best Extant."

The enormous sale last year of this old-established article, and the few specimens of testimonials below, stamp it as undoubtedly "the best extant." It is very neatly and very carefully put up throughout, and is indeed a most satisfactory article in



Thirty-five years' Reputation.

every respect, proof which lies in the fact its having, although not constantly advertised—still maintained its reputation, such, ever since its introduction to the public, and the fact, that about thirty-five years ago.

"CANNOT BE EXCELLED."

From 'Mr. Smith, Chemist, Glasgow:—"I have not kept any other Vermin Killer' than yours for the last four years. It is the best I ever sold."
From Mr. Geo. Eagle, Merrickville, Sydney, Australia, to Mr. Mitchell, Druggist, Pitt Street, Sydney:—"Sir, I promised to let you know how 'Hunter's Vermin Destroyer' acted. Its effect was wonderful; in one night it destroyed all the rats and mice about my house, which was swarmed with them."

From Mr. A. Billington, Chemist, Wakefield: August 28, 1878:—"Dear Sir,—Please send me a few of your Vermin Killer Registers. I can bear testimony to the deadly effect of your 'Killer,' having one night laid in my warehouse the contents of a 2d. packet, and found in the morning no fewer than forty dead mice."

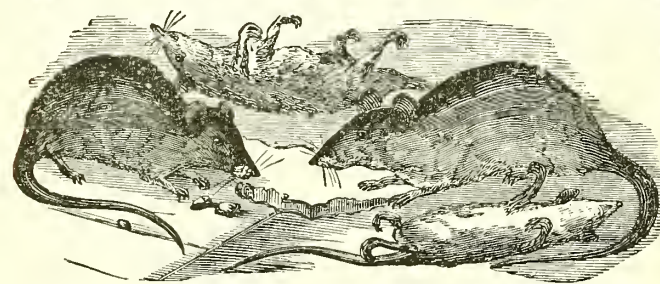
VIDE TESTIMONIALS.

From Messrs. P. Smith & Co., Chemists, Runcorn, Cheshire, 1881:—"In our opinion your 'Destroyer' is the best extant."
From Mr. James Froud, Chemist, Dorchester:—"Your Vermin Destroyer is to admiration. It is as effective as an infernal machine."
From Mr. Jas. Thompson, Low Heskett, near Carlisle, Mr. B. Pattinson, Chemist, Carlisle:—"Sir,—You can with confidence recommend 'Hunter's Vermin Destroyer.' It is the best thing I ever used, having often cleared stack-yards of both rats and mice in a day or so."
From Mr. Edward Thornton, Chemist, Lyme Regis:—"I can bear testimony to the efficacy of your 'Killer.' Parties who have purchased of me say that it is the best they have tried. Mice are really destroyed by it, and it quite answers the description you have given."

Kept in Stock by all the Wholesale Houses in the Trade throughout the United Kingdom. Vide Trade List &c.

LABORATORY—WESTGATE & UNION STREET, DEWSBURY, ENGLAND.

BATTLE'S VERMIN KILLER. { Mice eat it readily, and die on the spot.



Has an immense Sale, and wherever introduced never fails to give a factious. Mice appear attracted to it as by magic, eat it readily, and die on the spot. Rats usually die in their runs. Pairs troubled with Vermin may be cleared at once, either from Stacks, Houses, or other places.
TESTIMONIALS.—Thousands might be published.
From Mr. THOMAS COLTON, Agent for Selby:—"A trial of mine chased a Packet of your VERMIN KILLER last night, do not its to-day he called in to say that he had found fifteen dead mice, and had used part of a packet."
From Mr. EDWARD STURDY, Finsbury, London:—"I duly received by post the Packet of your VERMIN KILLER, and as represented in your advertisement. It speedily destroyed all the mice in my granary. I enclose 2s. for two more Packets. The November 1881.—I have tried BATTLE'S VERMIN KILLER, and found it effectual in clearing my premises of a LARGE QUANTITY OF RATS."
THOMAS S. CROSLAND.—Mr. Stead.

Sold in Packets, 3d., 6d., and 1s. each.

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Mr. J. R. BATTLE, Chemist, Lincoln England.
No Chemist or Storekeeper should be without a supply.

CENT. PER CENT.

CRAVEN'S VERMIN POISON

In Packets, 2d., 3d., 6d., and 1s.

Chemists who have not yet tried "CRAVEN'S VERMIN POISON" are respectfully requested to send for a Packet. SOLD BY MOST OF THE LONDON AND PROVINCIAL WHOLESALE HOUSES. SAMPLES AND TESTIMONIALS POST FREE.

F. CRAVEN, Chemist, Batley Carr, DEWSBURY.

BOWLING & GOVIER.

(Late Partners with FILMER KIDSTON),

MEDICAL SHOP FITTERS & CASE MAKERS

Our friends are kindly requested to notice our REMOVAL to New Workshops, where alone our Special Class Manufacture can now be obtained.

THE ART JOINERY WORKS,

22 GUN STREET, BRUSHFIELD STREET, BISHOPSGATE, LONDON.

PAPIER-MOURE,

OR FRENCH CHEMICAL FLY PAPER.

er Thousand Sheets	21s. 0d.
ackages containing 5 Sheets (3d.), per dozen	1s. 6d.
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10 per cent., and 5 per cent. Cash Monthly.								

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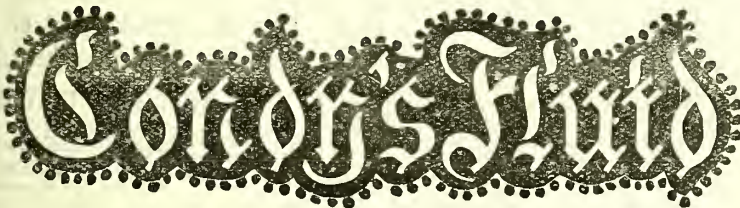
Bottles	per dozen,	3s. 9d. and 7s. 6d.
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7 to 12 ALDERSGATE STREET, LONDON.



Established 1877.

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THE
CHEAPEST
OF ALL.

THE
CHEAPEST
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				RETAIL PRICES.	TRADE PRICES.		
	{	RED	1s. size,	4s. Dozen.	
		"	2s. "	8s. "	
		"	4s. "	16s. "	
	{	GREEN	6d. "	3s. 6d. "	
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CONDY'S		OZONISED WATER	2s. "	8s. "	
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R CONDY & CO., DISINFECTING FLUID MAKERS,
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IN WATERPROOF, AIR-TIGHT, & ODOURLESS PACKAGES. *Protected by Royal Letter Patent.*

Is neat and clean, and convenient for use. Being air-tight and odourless, retains its strength unimpaired.

IT IS ADMIRABLY ADAPTED FOR EXPORT, AND WILL

KEEP FOR YEARS IN ANY CLIMATE.

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24-lb. BOXES, containing 24 1-lb. Packages		6/6
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Ditto	ditto 96 ¼-lb. ditto	8/0
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Ditto	ditto 1 Gross Penny Packages	8/0

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50-lb. CASES, containing	50 1-lb. Packages13/0
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Also in 1 cwt. and ½-cwt. Cases, to meet the requirements of large buyers and the Export Trade.

Packed also in Jars, Bottles, Casks, and Cases to order.

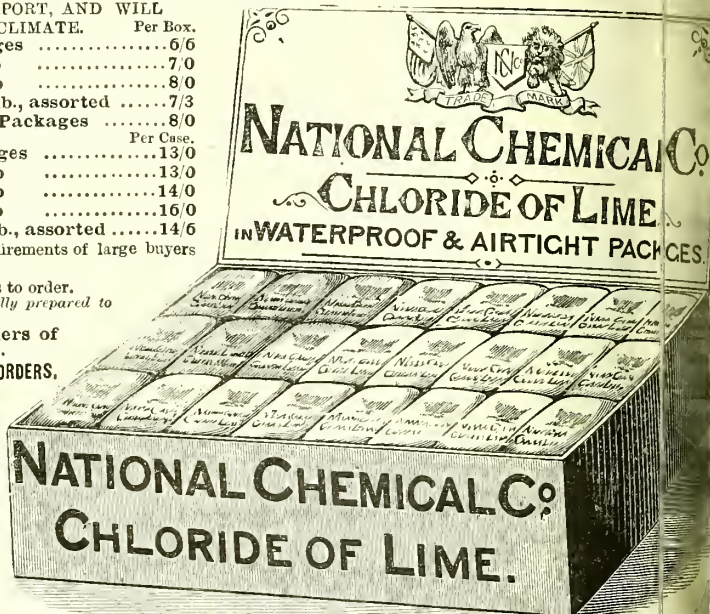
The Patented Composition for Export Orders is specially prepared to bear any Climate.

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SPECIAL QUOTATIONS FOR CONTRACT OR LARGE ORDERS.

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INDISPENSABLE IN EVERY LAUNDRY.

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GLOSS & STIFFNESS

Add one teaspoonful to each pint of Starch, and beat well together until thoroughly mixed

PREPARED BY W. H. HARROP.

HARROP'S

LINEN GLAZE

REGISTERED TRADE MARK

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STIFFNESS

For starching collars, cuffs, and all fine linen fabrics. It is suitable for hot or cold water starch

ONLY BY CHEMIST. CREWE

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Prevents the Iron sticking to the linen, & puts the same amount of finish on the Linen as when fresh from the manufacturer's hands.

ALWAYS SATISFACTORY.

CAUTION.—Each Packet and Case bears Registered Trade Mark as annexed.

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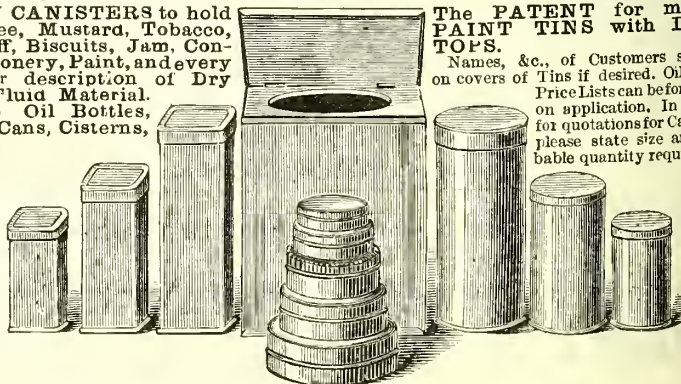
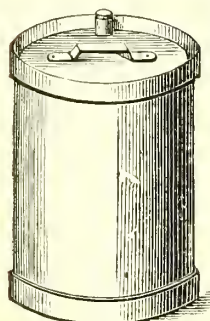
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TIN CANISTERS to hold Coffee, Mustard, Tobacco, Snuff, Biscuits, Jam, Confectionery, Paint, and every other description of Dry or Fluid Material. Also Oil Bottles, Oil Cans, Cisterns, &c.

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The PATENT for making PAINT TINS with LEAD TOPS.

Names, &c., of Customers stamped on covers of Tins if desired. Oil Bottle Price Lists can be forwarded on application. In writing for quotations for Canisters, please state size and probable quantity required.



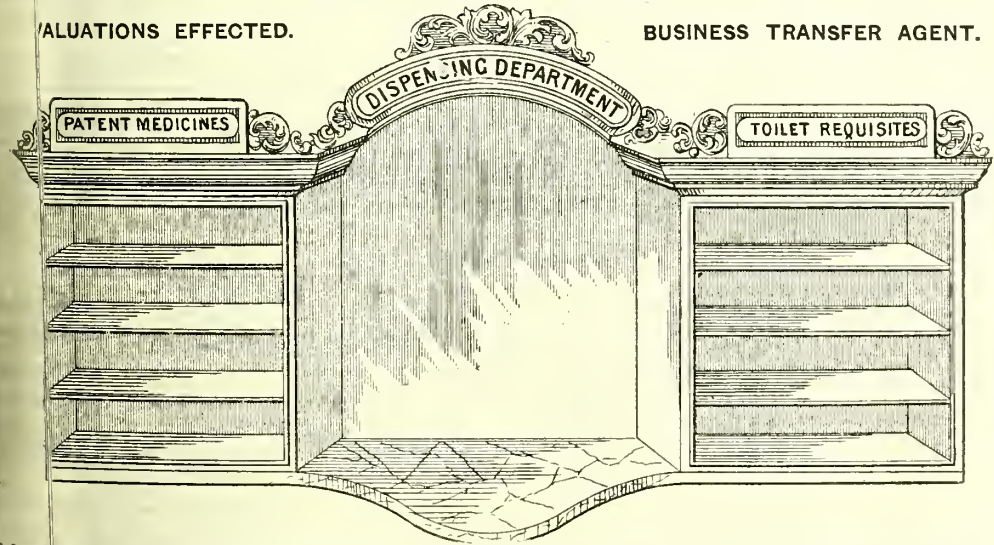
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Druggists' Shops Fitted and Furnished complete with
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Agents—S. MAW, SON & THOMPSON, 7 to 12 ALDERSGATE, CITY.

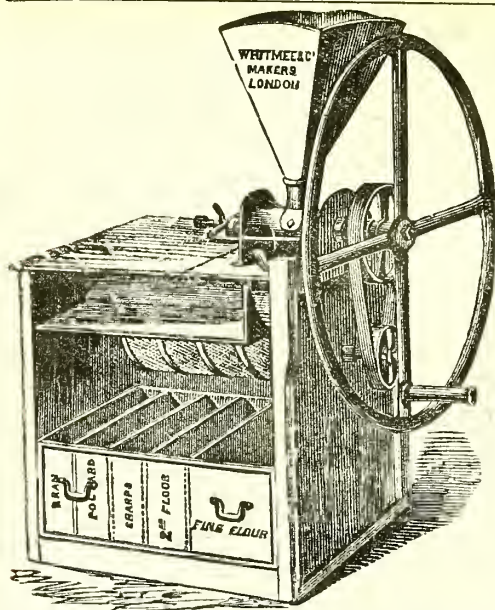
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Medical Shop Fitters and Show Case Makers,
HAVING PURCHASED THE WELL KNOWN BUSINESS AND STOCK OF
FILMER KIDSTON,
Offers the whole of his well-made and seasoned Stock of
SHOW FITTINGS, SHOW CASES, SHOW JARS, CARBOYS, &c.,
Including the KIDSTON'S HANDSOME
PRIZE DISPENSING COUNTER,
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R. TOMLINSON,
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ST PAUL'S SQUARE, BIRMINGHAM.
VALUATIONS EFFECTED. BUSINESS TRANSFER AGENT.



and-hand Fixtures for Sale, Jars, Globes, Drawers, Bottles, Counter Glass Cases, Shelves, &c.
SECOND-HAND FIXTURES OF ALL KINDS BOUGHT AND EXCHANGED.
will visit upon parties fitting up, to plan and advise. 2nd-class fare only charged.
FOR SALE, FIXTURES OR SHOP ABOUT SIXTEEN FEET BY TWELVE. WRITE FOR LIST.

For Export or easy transit it is admirably adapted as it takes top pieces, and can be fixed again in an hour. Packs into a Case 34 by 36, at a cost of 10s., 3s. of which is allowed if the empty is kept, and the full value allowed if returned carriage paid. Price, £8 10 0.



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The Sole Prize Medal of the International Exhibition 1862, was awarded to

JOHN WHITMEE & CO,

As Makers of the best

DOMESTIC FLOUR MILLS

J. W. & Co. have also been awarded many other Prize Medals for their CORN CRUSHERS, COFFEE and FLOUR MILLS. Their Mills and Machines for Grinding, Crushing, and Roasting Cocoa, Cacao, and other substances. Their French Burr Corn Mills, from 8 inches to 4 feet in diameter, are very highly approved.

Prices of the Hand-Power Flour Mills, which Grind and Less at one operation:—

To Produce two sorts of Flour, besides Bran	70
„ three „ „ „	£8 10 0
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Is purely Vegetable,
Uniform, and
Strong, Bright.

McMASTER, HODGSON & CO'S IMPROVED FLUID EXTRACT OF Annatto

It is guaranteed to be prepared from the pure colouring ingredient of the Spanish Annatto. Chemical Analysis and recent investigation prove that it possesses the highest degree of colouring power, perfectly uniform, and a superior and brilliant tint.

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CAUTION.—None genuine unless the Copyright Proprietors' Name—McMASTER, HODGSON & CO.—is on each label. LONDON AGENTS:—Messrs. Barclay & Son, Crosse & Blackwell, Edwards & Son, Hovenden & Son, Lyne & Co.

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THE UNIVERSAL TOOTHACHE SYRINGE

Retail,
6d. each.



Is a great improvement upon the "DENTAL SYRINGE," as the fluid is contained in a glass bulb, which enables its contents to be seen, and prevents liability to evaporation through long keeping or exposure.

THE UNIVERSAL CORN AND WART PENCIL

1 doz. mounted on a handsome Illustrated Show-Card, Retail, 6d. each; Wholesale, 3s. 6d. per doz. It is especially adapted for Export Trade, and may be safely sent to the hottest climates, as each glass tube is hermetically sealed and enclosed in a cardboard case.

N.B.—Both the above are exempt from Stamp Duty by permission of the Board of Inland Revenue.

CONCENTRATED WATERS.—One Ounce of these Waters added to Forty Ounces of Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions in the Pharmacopoeia, and free from all Chemical impurity. They are prepared to supply a want long felt by Chemists and Medical Men, and a fresh supply of any of the Medicinal Waters may be obtained at a moment's notice. They are not affected by age in any climate. No proportion of one part to thirty-two of water they represent the Medicinal Waters of the United States Pharmacopoeia.



	Per lb.		Per lb.		Per lb.		Per lb.
Aqua Anethi, Concent.	4/0	Aqua Cinnam. Ver. Concent.	6/0	Aqua Foeniculi, Concent.	4/0	Aqua Piment Concent.	4/0
„ Anisi, „	4/0	„ Cassia „	4/0	„ Menth Pip.	4/0	„ Rose „	4/0
„ Camphor „	4/0	„ Flor. Aurant.	8/6	„ Ang. Con.	6/0	„ Rose Yln „	4/0
„ Carui „	4/0	„ Flor. Sambuci „	8/6	„ Viridi „	4/0		

The above are put up in Bottles of 1lb. or 1lb. and upwards, each of which has the Inventor's Protection Label.

Wholesale Agents—Hearon & Co., Maw, Son, & Thompson, Lynch & Co., London; Evans, Sons, Liverpool; Woolley, Manchester; Bewley & Draper, Hunt & Co., Dublin; Glasgow Apothecaries' Co., Glasgow; Foggitt, Thirk, & Goodall & Co., Leeds; Slinger & Son, York; McKesson & Co., Boston.

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York. Special terms for large quantities may be had from

B. ROBINSON, Distiller and Brewer of British Wines, Church St., Fendleton, Manchester.

NESTLÉ'S MILK FOOD.

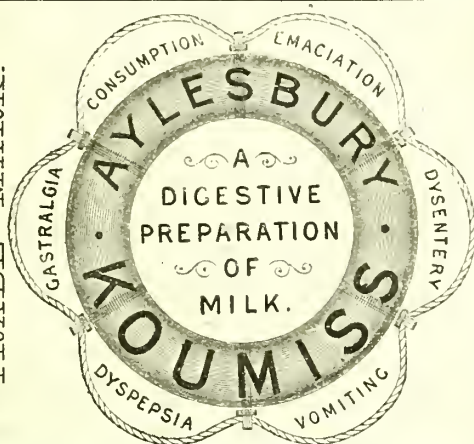


THE ORIGINAL
AND
ONLY GENUINE.

AD OF MERIT
International Medical
and
Exhibition,
1881.

PREPARED BY
AYLESBURY
RY COMPANY,
LIMITED,

TRADE MARK.



REGISTERED.

SILVER MEDAL

International & Colonial
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1881.

St. Petersburg Place,
BAYSWATER,
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NOTICE & CAUTION.

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Manufacturers of Essence of
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FAIR, W. and caution the trade to

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BRAND & CO'S

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SPECIALTIES FOR INVALIDS

ESSENCES OF BEEF,
MUTTON, VEAL & CHICKEN,
BEEF TEA, TURTLE SOUP & JELLY,
MEAT LOZENGES &c.

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STABLE JUJUBES, VOICE JUJUBES, AND GLYCERINE PASTILLES,
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not surpassed in quality by any maker, and give entire satisfaction.

DICTIONED and HIGH-CLASS LOZENGES, of every kind.
Sent out in 2-lb. or 4lb. Bottles, Bottles Free; or in Tins, from 10 lb. upwards.

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CID DROPS, AND BEST QUALITY BOILED SUGARS OF EVERY KIND.

GIBSON'S ORIGINAL CHLORODYNE LOZENGES.

NY SUGAR WORM CAKES, suitable for either children or adults. Have an immense sale,
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"THE MOTHER BRAND."



TRADE MARK (REGISTERED).

Sold in Cases of Two Dozen Tins.

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PREPARED BY AN IMPROVED PROCESS BY WHICH THE VIRTUES OF THE TARAXACUM OR DANDELION ROOT ARE RETAINED IN A HIGH DEGREE

In Tins, 6d., 9d., 1/0, and 1/6.

Is by far the best in the market. Excellent in quality, neatly packed, cheap and economical, and a very saleable article.

BEWARE OF WORTHLESS IMITATIONS.

Wherever this superior preparation is introduced, Chemists find a ready and increasing sale.

AGENTS WANTED THROUGHOUT ENGLAND AND THE COLONIES.

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A LARGE BUYER writes "Our customers ask for Mawer's Taraxacum, and will have no other, and we are doing well with it."

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FOR INFANTS, CHILDREN, AND INVALIDS.

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PREPARED BY THE SWISS MILK AND FOOD COMPANY

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Guanteed Pure Cocoa only—deprived of the superfluous oil.

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**A COMBINATION OF FRY'S PURE COCOA EXTRACT WITH
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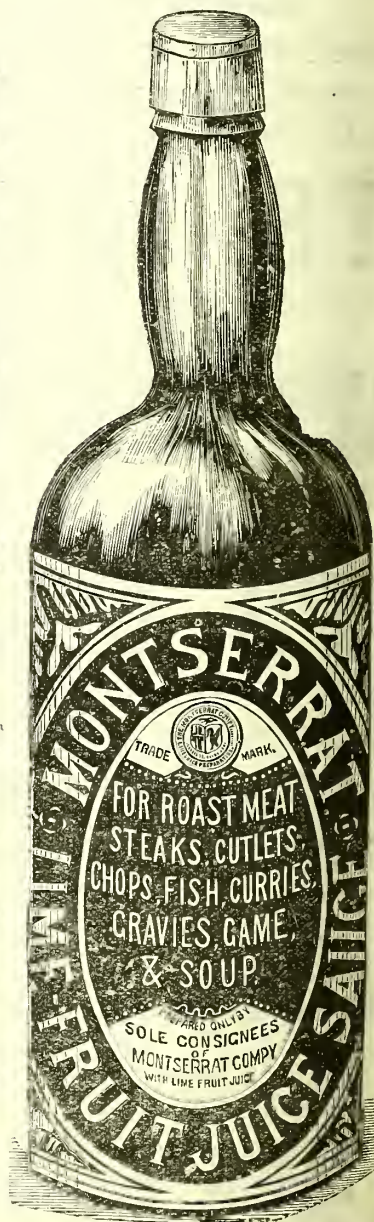
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See Pages 21 and 22.

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 A MONEY SAVING TEA. ABSOLUTELY PURE.
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STOCKED COMPLETE WITH ALL NEW GOODS,

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Manufacturers of every description of Machine-cut for Wholesale Druggists.

Fine Cut Russian, 8/- to 13/6. Fine Cut Brazil, 2/9 to 3.

We guarantee our ISINGLASS to be absolutely pure, and warrant it to be manufactured from the finest quality imported; our process being simply to cleanse, roll, and cut.

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Packed in Seal boxes, 1 oz. to 1 lb.

is strongly recommended by the medical faculty for invalids, or persons of weak digestion, and particularly for those who are suffering or recovering from fever, dysentery, or any other disorder affecting the stomach or intestines, being a perfect non-irritant and highly nutritious. It is also superior to all other gelatinous substances used in our domestic economy, in the preparation of Jellies, Blanc Manges, &c., some of which pass under the names of "Patent," "Refined," and "Gelatine."

Probably there is nothing that is more extensively adulterated than Isinglass, which is not Gelatine but a natural product, viz., the air-bladder of the Sturgeon, or fish of that class; whereas Gelatine is extracted from animal matter, and is simply refined glue.

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E. LAZENBY & SON (6 EDWARDS STREET, PORTMAN SQUARE.) Sole Proprietors of the Celebrated Receipts and Manufacturers of the Pickles, Sauces and Condiments so long and favourably distinguished by their name, beg to remind the public that their labels are affixed to the choicest description of goods only, that every article prepared by them is guaranteed as entirely unadulterated and may be obtained of Grocers, Italian Warehousemen and others.

HARVEY'S SAUCE.—CAUTION.—The admirers of this Celebrated Sauce are particularly requested to observe that each bottle bears the well-known label signed "ELIZABETH LAZENBY"; this label is protected by perpetual injunction in Chancery of the 9th July 1838 and without it none can be genuine.

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Elizabeth Lazenby

20s. for a QUARTER-CASK,

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Prepared according to Baron Liebig's own Instructions.

Flavoured Extract of Meat, 6d. per lb. less.

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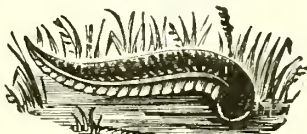
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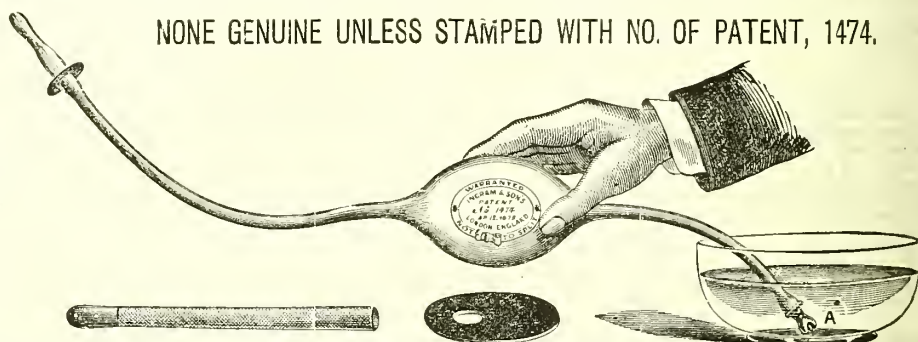
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Made without Seams or Ribs by our Patent Process of dipping in a solution of India Rubber, thus adding great strength and durability.

CAUTION.—The only
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WARRANTED NOT TO SPLIT.

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The great superiority of INGRAM'S IMPROVED PATENT SEAMLESS ENEMA over all others has given rise to various imitations, and it has become imperative that the Patentees should, in order to prevent deception, explain the process of manufacture of their enema and the mode of manufacture of imitations thereof, as they have undeniable proof that inferior enemas are positively being sold as their "ADVERTISED PATENT SEAMLESS ENEMA."

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA is made by a new patent process, viz.: By repeated dipping in a solution of India Rubber until the required substance is attained. This process adds greatly to its strength and durability, and, at the same time, dispenses with all seams, which, as is well known, are weak points in an enema. This improved mode of manufacture (the result of long study and experience) enables the Patentees to produce a perfect enema without seams, thus overcoming the great fault to be found in all other enemas, viz.: SPLITTING AND LEAKING, which has always been a source of trouble.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA is fitted with improved valves, which prevent the admission of air with the fluid and can at any time be repaired, if necessary.

CAUTION.—Imitations of INGRAM'S IMPROVED PATENT SEAMLESS ENEMA are made of several pieces of Sheet India Rubber, which are cemented together and shaped in a mould, thus producing ribs on the surface, and enemas so manufactured are always liable to split and leak at the seams, and thus to become quite useless.

INGRAM'S IMPROVED PATENT SEAMLESS ENEMA may be distinguished from all imitations by its entire freedom from ribs of any description on its surface, and by having an improved metal pin valve at the suction end A; and it is acknowledged to be the ONLY PERFECT ENEMA OBTAINABLE.

Patented in England, No. 1474, April 12, 1878; in France, No. 126,909, October 11, 1878; and in America, No. 212,939, March 4, 1879.

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MANUFACTURERS OF
India Rubber, Medicinal, Adhesive, Bunion, Corn, Court, Leather, Kid, Mustard, Spread,
Pharmaceutical, and Surgical

PLASTERS

of every description, in the most approved form; also Absorbent, Borated, Salicylated, and Cololated Cottons, Antiseptic Gauze, Bandages, Cotton Wool, Gutta Percha Tissue, Lin, Oil Silk, Oil Muslin, and every variety of antiseptic and Surgical Dressings.

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INDIA RUBBER PLASTERS.

Packed Two Dozen in a Box.

Size, 5 in. by 7½ in.

	per gross	£	s	d
Aconite	3	12	0	0
Aconite and Belladonna	2	8	0	0
Belladonna	2	14	0	0
Belladonna and Capsicum	4	16	0	0
Belladonna	3	12	0	0
Belladonna	3	12	0	0
Belladonna	2	0	0	0
Belladonna	3	0	0	0
Belladonna	3	0	0	0
Belladonna	3	0	0	0
Belladonna	2	8	0	0
Belladonna	3	12	0	0
Belladonna	3	12	0	0
Belladonna	3	12	0	0
Belladonna	2	8	0	0
Belladonna	3	0	0	0
Belladonna	2	8	0	0
Belladonna	1	10	0	0
Belladonna	3	12	0	0
Belladonna	3	0	0	0
Belladonna	3	0	0	0
Belladonna	2	8	0	0

SPECIAL FORMULE MADE TO ORDER.

Plain Spread and Porous at same rates.

YARD ROLLS. Pharmacopœia and Medicinal PLASTERS.

In Rubber Combination, Porous or Plain Spread.
Size, 7 inches wide by 1 yard long.

	per doz.	£	s	d
Aconite	1	7	6	0
Arnica	1	7	6	0
Belladonna	1	7	6	0
Blisters, Cantharidal	1	7	6	0
Capsicum	1	7	6	0
Mercurial	1	16	0	0
Opium	1	16	0	0
Thapsia, French Formula	1	8	0	0
Aconite and Belladonna	1	6	0	0
Ammoniac and Mercury	1	16	0	0
Iron	1	7	6	0
Lead	1	7	6	0
Roborans	1	7	6	0
Samach—Rhus Tox.	1	13	0	0
Warming	1	7	6	0
With Hazel	1	7	6	0

A full Line. Porous and Plain Spread at same rates.

SPECIAL FORMULE MADE TO ORDER.

MUSTARD PLASTERS.

Mustard Plasters, in yard rolls,	per doz.	0	10	0
Mustard Plasters, in ½ yard rolls,	per doz.	0	6	0

Mustard Leaves, 10 in tin, per doz.	£	0	10	0
Mustard Envelopes, 6 in paper,	per doz.	0	6	0
Mustard Envelopes, 3 in paper,	per doz.	0	3	0

MEAD'S ADHESIVE PLASTERS.

Mead's Adhesive Plaster, Pliable and Antiseptic, 1-yard rolls,	per doz.	£	0	14	0
Mead's Adhesive Plaster, in 5 yard rolls	per roll	0	5	0	0
Mead's Adhesive Strips, ½ inch,	per doz.	0	14	0	0
Mead's Adhesive Strips, 1 inch,	per doz.	0	16	0	0
Mead's Adhesive Strips, 2 inch,	per doz.	1	4	0	0

Also in Special Widths to order.

Mead's Corn and Bunion Plasters, Medicated, per dozen, 8s.
Corn and Bunion Plasters, Round, Square, and Oval, all styles, thick and thin.
Court Plasters, 49 different styles, elegant and balsamic. A full Line.
Salicylated India-rubber Adhesive Plaster, Porous or Plain Spread, on Strong Cotton Cloth or Twilled Linen.
Breast Plasters, Belladonna, Lead or Phytolacca Decandra, 6 inches and 8 inches in circumference.

SPECIAL NOTICE.

Our NEW CATALOGUE OF SPECIALITIES is ready for delivery, and contains a complete List of our Preparations. A Copy will be sent to any Chemist on application to—

Yours very truly,

SEABURY & JOHNSON,

1 & 2 AUSTRALIAN AVENUE, LONDON, E.C.

The A. & H. "Tasteless" CASTOR OIL

(Oleum Ricini Insidum, A. & H.)

TRADE



MARK.

A.D. 1715.

Pure and Absolutely Free from Odour and Unpleasant Taste.

The A. & H. Castor Oil will, we believe, be found free from the only drawback that has hitherto attended the use of, perhaps, the safest, surest, and most generally valuable aperient known. It is prepared from the entire seed, and the process employed yields a perfectly pure Castor Oil, possessing the well-known properties of the remedy, but free from the nauseous smell and taste, a result never before attained. The activity of this oil is in no degree reduced by the new method of manufacture. It is equal in this respect to the best East Indian Oil, and superior to the Italian, hitherto preferred as the least repulsive variety, and often sold as "tasteless."

THE LANCET of March 4th, 1882, writes:—"Messrs. ALLEN & HANBURY have recently introduced a variety of Castor Oil, which seems likely to supersede the old-fashioned form, with which we are so familiar. Their 'Tasteless Castor Oil' is absolutely pure, is almost colourless, and is as free from disagreeable taste or smell as anything of the nature of oil can be. We have given it an extensive trial, and find that it is taken, both by children and adults, without the slightest difficulty, whilst its aperient effects are unquestionable. It possesses all the advantages that are claimed for it."

THE BRITISH MEDICAL JOURNAL, January 28th, 1882, writes:—"Although absolutely pure Castor Oil, it is so prepared as to be entirely devoid of smell, and to have none of the disagreeable flavour which characterises the ordinary varieties of this oil. Being free from the nauseating character which has so long formed an objection to the habitual use of Castor Oil, this Castor Oil does not leave a disagreeable after-taste, nor give rise to the frequently-experienced sensation of sickness common to the use of the old-fashioned oil. It possesses very full aperient properties."

THE MEDICAL PRESS AND CIRCULAR, March 15, 1882, say—"Messrs. ALLEN & HANBURY have recently introduced a preparation called 'Oleum Ricini Insidum.' It is absolutely pure castor oil, entirely devoid of smell and disagreeable flavour, and therefore does not cause nausea and after-taste which are characteristic of the ordinary variety. We have had the opportunity of employing this 'tasteless' castor oil of Messrs. ALLEN & HANBURY in a public hospital on a large scale. Its aperient power is complete, and is fully appreciated by the patients, especially children, who, finding it quite tasteless, never raise an objection to its administration."

THE MEDICAL TIMES AND GAZETTE, January 7, 1882, write—"Messrs. ALLEN & HANBURY have introduced a Castor Oil that is entirely free from taste and smell, and have thereby earned the gratitude of countless multitudes of persons of all ages. That the oil is Castor Oil proved by its remaining physical and medicinal properties, but it is free from taste and taste as olive oil. It is, therefore, taken very much more readily; it does not produce nausea or after-taste; and, whilst, it retains the full aperient properties of ordinary pure Castor Oil."

THE CHEMIST AND DRUGGIST, February 15, 1882.—"Pharmacists in no way justify their existence in the community better than by improvements in the preparation of useful medicines, rendering them less nauseous or more convenient for administration. By producing a tasteless and odorless castor oil Messrs. ALLEN & HANBURY may be congratulated on having achieved a really notable triumph. . . . Their product retains no trace of odour, and it is as free from taste as pure olive almond oil. It is rather difficult to exactly appreciate this fact, and it is possible that the present generation will hardly fully understand what has been done for them. Castor Oil has an evil reputation clinging to it, which is impossible for any of us to forget as we approach it. It is only need, however, now to dismiss all prejudice from the mind, and a dose of castor oil need no longer inspire the dread which clusters round its name. . . . hold."

Doses the same as of oil of the ordinary quality.

Sold ONLY in Bottles, bearing ALLEN & HANBURY'S Signature and Trade Mark, at

Retail	each	per doz.	Retail	ls. 9d. each	15s. 1 ^r doz.
" 6d.	"	4s. 6d.	" 3s.	"	27s. "
" 1s.	"	9s.	" 9s.	"	80s. "

USUAL TERMS.

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